PHASE-I INTEGRATED SITE ASSESSMENT

PRELIMINARY ASSESSMENT/SITE INSPECTION
FOR THE
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI

CERCLIS ID: MOD000822601
TDD: S07-9601-027
PAN: 0027CCSSXX
Contract No. 68-W6-0012

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Prepared For:

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION VII SITE ASSESSMENT AND COST RECOVERY SECTION

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1. INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and the Superfund Amendments and Reauthorization Act (SARA) of 1986, the U.S. Environmental Protection Agency (EPA), Region VII Site Assessment and Cost Recovery (SACR) Section tasked the Ecology & Environment, Inc. (E & E), Technical Assistance Team (TAT) to conduct an integrated site assessment including a Preliminary Assessment/Site Inspection (PA/SI) and removal assessment of the Carter Carburetor site (CERCLIS ID MOD000822601) in St. Louis, Missouri. PA/SIs are conducted under the auspices of EPA's Superfund Accelerated Cleanup Model (SACM) and result in the combination of the site assessment activities of the Remedial/Site Assessment and Removal Programs. The initial work and sampling activities were conducted under Technical Direction Documents (TDDs) T07-9510-511 and T07-9511-003.

On December 18, 1995, the TAT contract was replaced by the Superfund Technical Assessment and Response Team (START) contract. As a result, the aforementioned TDDs were administratively closed. The START was subsequently tasked to complete the PA/SI report under TDD S07-9601-027.

The objectives of the PA/SI were to collect sufficient information concerning conditions at the Carter Carburetor site to assess the threat posed to human health and the environment and to determine the need for additional investigation under CERCLA or other authority, and to support a site evaluation using the Hazard Ranking System (HRS) for proposal to the National Priorities List (NPL). The PA/SI included reviewing previous information, sampling environmental media to test PA hypotheses and to evaluate and document HRS factors, collecting additional non-sampling information, and providing information pertaining to the proposed removal action. Information obtained during the PA/SI was incorporated into the SI narratives and score sheets.

Specific objectives of this PA/SI were to determine the impact of volatile organic compounds (VOCs), semivolatile organic compounds, metals, and polychlorinated biphenyls (PCBs) contamination on ground water, surface water, surface soil, subsurface soil, and the public drinking water system (PWS) in the site's vicinity. In order to achieve these objectives, TAT was tasked to conduct multi-media sampling to determine the extent and degree of contamination.

2. SITE DESCRIPTION AND HISTORY

2.1 SITE LOCATION

The site is located north of downtown St. Louis at 2800 to 2840 North Spring Avenue, St. Louis, Missouri, approximately 0.7 miles south of Fairground Park (Figure 2-1). The geographic coordinates of the approximate center of the site are 38° 39' 22.3" North latitude and 90° 13' 16.5" West longitude (Reference 1). The latitude and longitude calculation worksheets are included in Appendix A.

2.2 SITE DESCRIPTION

The site is located on approximately 9 acres in a mixed commercial/residential area of St. Louis, Missouri. Figure 2-2 illustrates the surrounding land use. The site is immediately bounded to the west, south, and east by various businesses, and to the north by the Herbert Hoover Boy's Club, which includes recreational fields. Large residential tracts are located in all directions further from the site. The streets surrounding the site are Dodier Avenue to the north, North Grand Street to the east, St. Louis Avenue to the south, and N. Spring Street to the east. The Carter Carburetor facility is an inactive carburetor and automotive parts manufacturing plant that was housed in a three-story building with a basement. Currently, removal activities are being negotiated between the potentially responsible parties (PRPs) and EPA Region VII. Several businesses, unrelated to the previous operation, currently occupy portions of the site. The three-story building is in poor condition characterized by dilapidated walls, roofs, and floors. The building is surrounded by concrete and an asphalt parking lot. Other than areas where cracks are present in the concrete and asphalt, and low-lying areas where sediment has deposited, the site has no exposed soil. Several sumps containing liquid are present in the south and north die casting rooms (Reference 2). Approximately 21 drums are staged in the room just south of the south die casting room. Several transformers are present at the site. The site layout, including the layout of each individual floor of the building, is depicted in the drawings in Appendix E.

2.3 OPERATIONAL HISTORY AND WASTE CHARACTERISTICS

2.3.1 Operational History

The former Carter Carburetor facility manufactured equipment for gasoline- and diesel-powered engines dating back to the 1930's. Aluminum and zinc metals were die cast and machined into carburetor components. Those components were treated with protective coatings and assembled at the facility. Materials related to this process may have included polymers and resins for coatings and metal-treating solutions containing cyanide, lead, cadmium, chromium, and other metals. Other materials potentially associated with the manufacturing process may have included coolants, cutting fluids, lubrication and hydraulic oils, dielectric fluids from transformers, and possibly asbestos (Reference 2).

American Car and Foundry (ACF) Industries, Inc., owned and operated its subsidiaries-Carter Carburetor and Carter Automotive companies-at the site until April, 1985. ACF is currently owned by Carl Icon of New York, New York. In exchange for forgiveness of delinquent taxes, ACF deeded the property to the St. Louis Development Land Reutilization Authority (LRA) in 1985 (Reference 2). Also that year, the LRA deeded the property to Hubert and Sharon Thompson. In 1986, the Thompson's sold a portion of the facility to Mr. and Mrs. Edward Pivirotto. This portion of the site was later reverted back to the LRA due to Pivirotto defaulting on taxes. In 1986, it was alleged that the Thompson's were dismantling transformers and related equipment at the site. In 1987, the EPA conducted a Toxic Substances Control Act (TSCA) inspection at the site. EPA subsequently issued a TSCA Complaint to Mr. Thompson. In 1988, Thompson contracted U.S. Pollution Control, Inc. (USPCI), to remove the transformers from the site. In 1989, the Missouri Department of Natural Resources (MDNR) conducted an inspection at the Carter Carburetor site. The inspection determined that transformers, transformer oil, and contaminated concrete had been removed from the site. However, samples collected by MDNR revealed PCB contamination in the facility's pump room. In 1990, EPA conducted another TSCA inspection and collected samples. Results of the inspection indicated contamination in the pump room exceeding regulatory levels, a transformer, and drums containing contaminated material still on the site. In 1991, EPA requested that Thompson submit a plan to clean up contamination at the site. Thompson responded that he did not have the resources to conduct a cleanup (Reference 3). Also in 1991, Thompson transferred his portion of the property to George Moore, president of Carter Building, Inc. (CBI). Currently, CBI owns the west half of the facility and the LRA owns the northeastern portion of the facility (Reference 2). The irregular-shaped building does not have a southeast quadrant. CBI leases portions of the building to other businesses including Wilco Plastics Shop, Caribou Corporation (a metal fabrication company), Mac's Auto Service, and Maintenance Control/Karmar and Stajo Company which uses a portion of the building for equipment storage (Reference 4).

2.3.2 Previous Investigations and Waste Source Characteristics

Based on the operational history and past investigations at the Carter Carburetor site, the potential waste sources that have been identified are listed below (References 2, 5, 6, and 7).

1. **Transformers**: Two 100-gallon transformers are located outside the building, and 17 1-gallon transformers/capacitors are located inside the building. The exact contents and volumes are unknown.

2. **USTs**: Two 3,000-gallon underground storage tanks (USTs) containing waste oil and Pydraul (a PCB-containing hydraulic fluid), and 19 other USTs are reportedly present at the site. Geophysical activities conducted by TAT in December 1995 revealed three areas where USTs may be located (see drawings in Appendix E).

3. **Drums**: Twenty-one 55-gallon drums are staged inside the building. At least three drums have documented PCB contamination, identified through laboratory analysis. Seven drums are empty. Two are unused overpack drums.

4. **Metal shavings**: An unknown volume of metal shavings is spread throughout the facility. Analytical results have shown

the shavings are contaminated with PCBs, cyanide, and heavy metals.

5. **Smokestack/exhaust ventilation**: Analyses of wipe samples collected inside the immediate area around the smokestacks indicated PCBs and dioxin equivalents contamination. These vents were used for exhausting fumes resulting from diecasting activities.

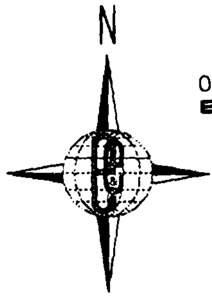
6. **Sumps and trenches**: At least 5 sumps and/or trenches are located in the diecasting rooms. Most of the sumps contain liquids and sediments. One sump was sampled and exhibited PCB contamination.

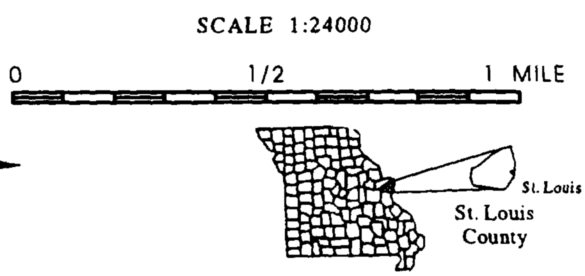
7. **Building material and dust**: Analytical results of wipe samples and building material samples have indicated areas, primarily in the diecasting rooms, that are contaminated with PCBs.

PCBs are the primary contaminant of concern at the Carter Carburetor site. VOCS, semivolatile organic compounds, heavy metals, and dioxin equivalents have also been detected at less significant concentrations and less extensively.

PCBs are very persistent in the natural environment and are readily bioaccumulated. In humans, exposure to PCBs has ben associated with chloracne, impairment of liver function, a variety of neurobehavioral symptoms, menstrual disorders, minor birth abnormalities, and an increased incidence of cancer (Reference 8). Estimates of the carcinogenic risks associated with lifetime exposure to various concentrations of PCBs in water are (Reference 8):

Risk	Concentration
10^{-5}	0.79 ng/liter
10^{-6}	0.079 ng/liter
10^{-7}	0.0079 ng/liter





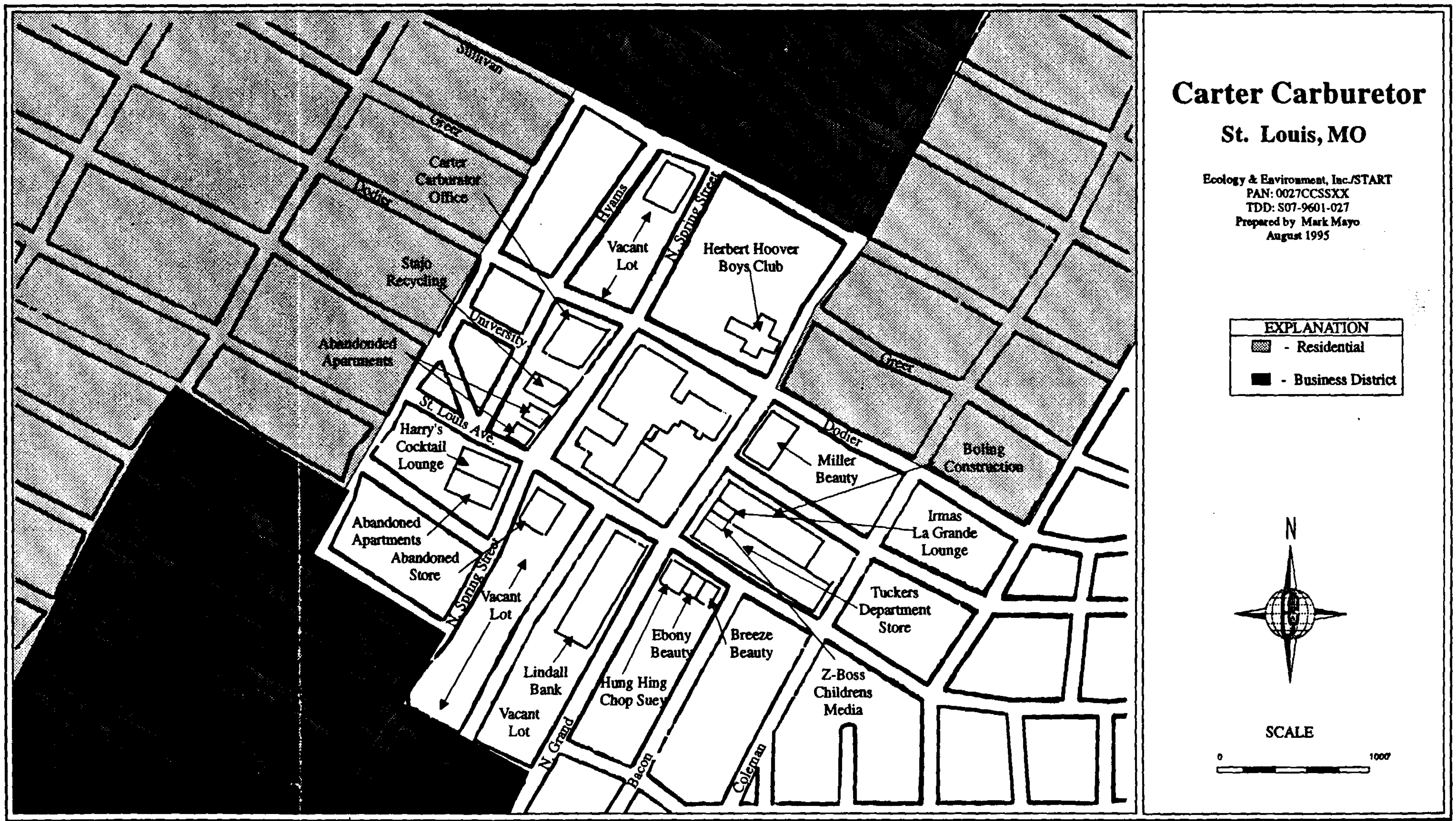
Carter Carburetor
St. Louis, MO

Ecology & Environment, Inc./START
PAN: 0027CCSSXX
TDD: S07-9601-027

ecology and environment, inc.
OVERLAND PARK, KANSAS

FIGURE 2-1: Site Location Map

Source: USGS 7.5 minute series, photo rev. 1982
Granite City, MO Quad
Prepared by Mark Mayo
August 1995



SURROUND.CDR
CARTER CARBORETOR

SOURCE: Ecology and Environment, Inc START

Figure 2-2: Surrounding Land Use Map

3. INTEGRATED SITE ASSESSMENT ACTIVITIES

TAT conducted integrated site assessment activities December 8 through 14, 1995. Samples submitted for laboratory analyses were under activity number FB2JJ. The data transmittal, field sheets, and chain-of-custody forms are included in Appendix C. Samples collected for on-site screening and other investigation derived waste were double-bagged, taped, and placed in the drum staging area in the building. The gates to the site were locked upon TAT's departure.

3.1 GEOPHYSICAL SURVEY

On December 8, 1995, TAT members (TATMs) Joe Davis, Dave Kinroth, and Joe Parish conducted a limited geophysical survey to identify potential locations of USTs. TAT utilized a MAC-51B metal locator and a Geonics EM-31 terrain conductivity meter. Three locations were identified where buried metal, possibly USTs, exists. One area was located on the east side of the building and just south of the die-cast rooms. A second area was located in the lot just east of the portion of the building occupied by the George Moore's Shop. The third area identified was located in the southeast corner of the lot near the northwest corner of the intersection of Dodier and Spring Streets. These locations are depicted on the drawings in Appendix E. These potential UST locations were used to determine subsurface soil and ground water sample locations.

3.2 SURFACE SOIL SAMPLING

Tables 3-1 and 3-2 summarize the surface soil samples collected, the PCB screening results, and the results of laboratory analyses. PCB screening consisted of on-site screening for PCBs with Millipore Envirogard™ PCB in Soil Test Kits. Locations of the samples are indicated on the drawings in Appendix E. A total of 14 surface soil samples were collected at the Carter Carburetor site. Sampling procedures used are outlined in the site-specific quality assurance sampling plan (QASP) developed for the site (see Reference 4). Two samples were collected from exposed surface soil in each of four directions from the site (north, south, east, and west). Four samples were collected from the predominant wind direction (to the northeast) in the open field north of the Herbert Hoover Boy's Club. Two background samples were collected in Fairground Park, which is located four blocks north of the site on Natural Bridge Road.

PCB screening results indicated six of the samples contained PCBs from 1 to 5 parts per million (ppm). In relation to the site, these samples were located: one to the north, one to the west, and two each to the south and east. The remaining six samples indicated no PCBs above Millipore's™ test kit detection limit of 1 ppm. The background samples were not screened. PCB screening results are reported as a concentration range, because the screening procedure is a colorimetric comparison to a standard and is, therefore, semi-quantifiable.

Five surface soil samples were submitted to the Region VII EPA Laboratory for PCB, metals, VOCs, and semivolatiles analyses. These included two samples, one duplicate and two background samples. Analytical results indicated the presence of lead at concentrations ranging from 868 to 1,080 milligrams/kilogram (mg/kg). Lead was detected in the background samples at 150 and 389 mg/kg. The EPA Region VII screening level for lead in residential soil is 400 mg/kg. Arsenic was detected above its EPA cancer risk screening concentration in all samples at concentration of 2.47 to 111 mg/kg. However, the highest concentration was detected in a background sample. Other metals were detected, though at levels below human health concerns.

PCBs (aroclors 1248, 1254, and 1260) were detected in all surface soils submitted for laboratory analysis. Concentrations for the individual aroclors ranged from 130 to 2,600 micrograms/kilogram (μg/kg). PCB-aroclors 1254 and 1260 were detected in separate background samples at 130 and 220 μg/kg, respectively.

3.3 SUBSURFACE SOIL SAMPLING

Tables 3-3 and 3-4 summarize the subsurface soil samples, screening results, and laboratory analytical results. In addition to the PCB screening, subsurface soil samples were screened for VOCs with a Foxboro 128 organic vapor analyzer (OVA). TAT collected 46 subsurface soil samples from 12 locations as deep as 18 feet utilizing a Geoprobe hydraulic direct-push sampler. Probe holes were located: two each in four directions around the perimeter of the site (north, south, east, and west), two near a potential UST just northwest of the site, one on the site near a potential UST, and one background location in Fairground Park. Sample locations are indicated on the drawings in Appendix E.

Thirty-three subsurface soil samples were screened for PCBs. Only one sample indicated PCBs, at >2 to <5 ppm, above the detection limit. The sample was collected from the 8- to 10-foot depth interval from probe hole #12 located near the potential UST south of the die cast room.

The OVA detected VOCs in seven samples from four probe holes (#1 and #2 north of the site and #7 and #9 south of the site). OVA readings in the seven samples ranged from 1 to 100 ppm.

Eleven subsurface soil samples were submitted to the EPA Region VII Laboratory for VOCs, PCBs, semivolatile organic compounds, and total metals analyses. This number of samples exceeded the required 20 percent for confirmation of screening results, as outlined in the QASP. No duplicate was submitted, because a duplicate surface soil sample was submitted to represent the soil matrix.

Analytical results of the subsurface soil samples indicated the presence of at least one of three PCB-aroclors-1242, 1248 and 1254-in seven of the 11 samples submitted. Concentrations for the individual aroclors ranged from 12 to 2,800 μg/kg. On-site screening detected PCBs in only one of the samples in which PCBs were detected by laboratory analysis. That sample had a combined PCB-aroclor concentration of 3,610 $\mu g/kg$. For the remaining samples that were field screened, the concentrations detected by laboratory analysis were below the detection limit for the Millipore™ test kit.

3.4 GROUND WATER SAMPLING

Tables 3-5 and 3-6 summarize ground water samples collected for the Carter Carburetor site. Samples were submitted to the EPA Region VII Laboratory for low detection limit VOCs, PCBs total metals and semivolatiles analyses. Four ground water samples, including one background and one duplicate, were collected with the Geoprobe from three locations. These locations are indicated on the drawings in Appendix E. One sample was collected from probe hole #4 located just northwest of the site. A second sample was collected from probe hole #12 located near the potential UST on the east side of the site. The last location was probe hole #6, the background location in Fairground Park. A field blank and equipment rinsate sample were also prepared and submitted for the same parameters mentioned previously. The methods used to collect the ground water samples are described in the QASP.

Analytical results indicated PCB-aroclor 1242 at 0.22 micrograms/liter ($\mu g/L$) in the sample collected on the site (probe hole #12). VOCs detected in this sample included vinyl chloride (VC) at 220 $\mu g/L$; chloroform at 2 $\mu g/L$; benzene at 6 $\mu g/L$; trichloroethylene (TCE) at 72 $\mu g/L$; perchloroethylene (PCE) at 0.5 $\mu g/L$; 1,2-(trans) dichloroethylene [1,2-(trans)DCE] at 4 $\mu g/L$; and 1,2-(cis) dichloroethylene [1,2-(cis)DCE] at 660 $\mu g/L$. All other ground water samples were non-detect for VOCs, PCBs, and semivolatiles. Several metals were detected in the ground water. However, the levels detected were comparable to the levels detected in the background sample. None of the aforementioned contaminants were detected in the rinsate or field blank.

3.5 PUBLIC DRINKING WATER SYSTEM SAMPLING

Five public drinking water samples, including one duplicate, were collected from four private residences or businesses and were submitted to the EPA Region VII Laboratory for the same parameters as the ground water samples. Tables 3-5 and 3-7 summarize the public drinking water samples collected for the Carter Carburetor site. One sample was collected from the Maintenance Control business located in the northwest portion of the building on the site. Two samples (one duplicate) were collected from the Herbert Hoover Boy's Club. One sample was collected from a private residence at 3515B Dodier Avenue, northeast of the site. One sample was collected from the Missionaries of Charity Convent located south of the site at the intersection of Fall and Cottage Streets. The locations of these samples are indicated on the drawings in Appendix E.

Analytical results indicated no PCBs in the public drinking water samples that were collected. Chloroform was detected in each of the samples at 4 μg/L. Bromodichloromethane was detected in each sample at 2 μg/L. Dibromochloromethane was detected in one sample collected from the Boy's Club at 0.4 μg/L. Of these VOCs, only bromodichloromethane was above EPA health-based benchmarks. Several metals were detected in the public drinking water samples. However, only aluminum (Al) was detected above an EPA health-based benchmark. Aluminum was detected in the samples collected at the Boy's Club and Maintenance Control at 51.3 to 102 μg/L. The secondary maximum contaminant level (SMCL) for Aluminum is 50 to 200 μg/L. None of the aforementioned contaminants were detected in the field blank.

3.6 PUBLIC STORM SEWER SEDIMENT SAMPLING

Public storm sewer sediment samples collected for the Carter Carburetor site are summarized on Table 3-8. Three samples were collected from three different public sewer system manholes located in three different directions from the site (east, west, and south). These locations are indicated on the drawings in Appendix E. There was no manhole along the north boundary of the site. These samples were submitted to the EPA Region VII Laboratory for VOCs, PCBs, semivolatile organic compounds, and total metals.

Analytical results indicated the presence of several metals. Most significantly, arsenic (As) was detected up to 94,500,000 μg/kg, chromium (Cr) up to 284,000 μg/kg, and lead (Pb) up to 3,590,000 μg/kg. PCB-aroclors 1248, 1254, and 1260 were detected in the sewer sediment samples at concentrations ranging from 15,000 to 7,300,000 μg/kg. Methyl ethyl ketone (MEK) was detected at 29 and 83 μg/kg in two samples and acetone found in one sample at 480 μg/kg.

The influent to the Bissel Point Treatment Plant was not sampled as proposed in the QASP, because analytical data were available from Jeff Theerman, the assistant director of the plant. Theerman informed TAT that the influent catchment basin is completely flushed every couple of days. Therefore, contaminants would not likely be present from Carter Carburetor's activities which ceased in 1990. However, the analytical data that Theerman provided for the plant's influent were from 1985. Several VOCs were detected such as PCE, TCE, and toluene. These compounds are not likely attributable to the site. No PCBs were detected in the influent samples from 1985. The samples were not analyzed for metals. These analytical data are provided in Appendix D.

3.7 SUMP SAMPLING

TAT located five sumps in the building on the site. Three were located in the north die cast room and two were located in the south die cast room. Four of the sumps contained standing water/liquid. Sump samples and results are summarized in Table 3-9 and 3-10. The locations of the sumps are depicted on the drawings in Appendix E.

TAT screened the sediment from all five sumps for PCBs utilizing the Millipore™ kits. Results of the screening indicated PCBs in all five sumps, four of which exceeded 100 ppm. Two sump sediment samples, including one duplicate, were submitted to the EPA Region VII Laboratory for VOCs, PCBs, semivolatile organic compounds, and total metals. The analytical results for these samples collected from sump #2 revealed lead up to 1,370 mg/kg, and PCB-aroclor 1248 up to 410,000,000 μg/kg. VOCs and semivolatiles detected included di-n-octyl-phthalate at 210,000 μg/kg; 1,1-dichloroethane (1,1-DCA) at 30 μg/kg; chlorobenzene at 27 μg/kg; acetone up to 240 μg/kg; MEK up to 64 μg/kg; 1,4-dichlorobenzene (1,4-DCB) up to 370 μg/kg; 1,3-dichlorobenzene (1,3-DCB) up to 180 μg/kg; and 1,2-dichlorobenzene (1,2-DCB) up to 44 μg/kg.

Three water samples, including one duplicate, were collected from sumps #1 and #2. These were submitted to the Region VII EPA Laboratory for VOCs, PCBs, semivolatile organic compounds, and total metals analyses. Results indicated PCB-aroclor 1248 up to 44,000 μg/L; 1,1-dichloroethane up to 2 μg/L; and 1,4-(para)-dichlorobenzene at 0.8 μg/L.

3.8 DRUM SAMPLING

TAT inventoried and/or sampled the 21 drums staged in the room just south of the die cast rooms. The results are summarized on Tables 3-11 and 3-12. Of the

21 drums, nine contained material, seven were empty, two had "PCB" placarding, two were unused overpack drums, and one was labeled "decon. water".

Six of the nine drums that contained material were sampled and screened by TAT for PCBs using Chlor-N-Oil™ kits. The other three were too solidified to be sampled. Screening results indicated one drum with PCBs at concentrations greater than 50 ppm. Two drums contained PCB concentrations at less than 50 ppm. Two drums did not contain PCBs and one test was inconclusive. Two samples (from drums #CC02 and #CC04) were submitted to the Region VII Laboratory for VOCs, PCBs, semivolatile organic compounds, and total metals. Results of these analyses detected PCB-aroclor 1248 at 10,000 μg/kg in one sample and PCB-aroclor 1260 in each sample at 8,400 and 580,000,000 μg/kg, respectively. Organic compounds detected in at least one sample included phenanthrene at 520,000 μg/kg; PCE up to 46,000 μg/kg; 1,2-DCB up to 2,200,000 μg/kg; 1,3-DCB at 680,000 μg/kg; 1,4-DCB at 780,000 μg/kg; and 1,2,4-trichlorobenzene at 210,000,000 μg/kg. Iron and copper were detected, though at low levels.

Table 3-1

SURFACE SOIL SAMPLE SUMMARY AND SCREENING RESULTS
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
DECEMBER 11-14, 1995

Field I.D.	EPA Sample Number	Description	PCB Screening Result (ppm)
SS1	—	Field north of Boys Club	<1
SS2	—	Field north of Boys Club	<1
SS3	—	Field north of Boys Club	<1
SS4	—	Field north of Boys Club	<1
SS5	—	West of site	<1
SS6	FB2JJ-104	West of site	>1 to <5
SS6	FB2JJ-104-D	West of site	>1 to <5
SS7	—	North of site	<1
SS8	—	North of site	>1 to <5
SS9	—	South of site	>1 to <5
SS10	—	South of site	>1 to <5
SS11	FB2JJ-105	East of site	>1 to <5
SS12	—	East of site	>1 to <5
BSS1	FB2JJ-102	Background-Fairground Park	Not screened
BSS2	FB2JJ-103	Background-Fairground Park	Not screened

Key:

<1 = Indicates PCB was not detected above the detection limit of 1 ppm. Screened with Millipore's Envirogard PCB in Soil Test Kit™.

— = Indicates not submitted for laboratory analysis. Laboratory samples submitted to EPA Region VII Laboratory on 12/14/95 for VOCs, Semivolatiles, PCBs, and total metals analyses.

Table 3-2

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
SUMMARY OF SELECTED SURFACE SOIL ANALYTICAL DATA
DECEMBER 1995

EPA SAMPLE NUMBER	FIELD I.D.	CONTAMINANTS (mg/kg)					
		PCB Screening (ppm)	PCB-Aroclor 1248	PCB-Aroclor 1254	PCB-Aroclor 1260	Lead	Arsenic
FB2JJ-104	SS6	>1 <5	2.4	2.0	0.47	822	36.9
-104D	SS6	>1 <5	2.6	2.5	0.62	1,080	59.1
-105	SS11	>1 <5	1.0	1.1	0.48	868	2.47
-102	BSS1	Not Screened	U	0.130	U	389	111
-103	BSS2	Not Screened	U	U	0.220	150	2.87
3 Times Background		NA	U	0.39	0.66	1,167	333
Region VII RAL Residential Guide-line		NA	NL	NL	NL	500	NL
Health-Based Benchmarks	EPA Reference Dose Screening Concentration	NA	Total PCBs 1.6	Total PCBs 1.6	Total PCBs 1.6	NL	23
Health-Based Benchmarks	EPA Cancer Risk Screening Concentration	NA	Total PCBs 0.083	Total PCBs 0.083	Total PCBs 0.083	NL	0.43
Region VII Screening Action Level	Industrial Area	NA	Total PCBs 0.37	Total PCBs 0.37	Total PCBs 0.37	NL	310
Region VII Screening Action Level	Residential Area	NA	Total PCBs 0.083	Total PCBs 0.083	Total PCBs 0.083	NL	23

Note: All concentrations reported in mg/kg unless noted in table. Locations are shown in drawings in Appendices.

Key:

Shaded Area = Data exceed at least one of the listed health-based bench marks or 3 times background.
NL = Not listed.
NA = Not applicable.
U = Actual value of the sample is less than measurement detection limit.

Table 3-3

SUBSURFACE SOIL SAMPLE SUMMARY AND SCREENING RESULTS
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
DECEMBER 11-14, 1995

Field I.D.	EPA Sample Number	Depth Interval (feet)	Description	OVA Result (ppm)	PCB Screening Result (ppm)
PH-1	—	4 to 6	Parking lot northeast of site	0	Not screened
PH-1	—	6 to 8	Parking lot northeast of site	0	<2
PH-1	—	8 to 10	Parking lot northeast of site	0	Not screened
PH-1	—	10 to 12	Parking lot northeast of site	0	<2
PH-1	—	12 to 14	Parking lot northeast of site	0	Not screened
PH-1	—	14 to 16	Parking lot northeast of site	40	<2
PH-1	—	16 to 18	Parking lot northeast of site	0	<2
PH-2	FB2JJ-109	4 to 6	North of site	0	Not screened
PH-2	—	6 to 8	North of site	0	<2
PH-2	—	8 to 10	North of site	7	Not screened
PH-2	FB2JJ-110	10 to 12	North of site	60	<2
PH-2	—	12 to 14	North of site	4	<2
PH-2	—	14 to 16	North of site	0	Not screened
PH-2	FB2JJ-111	16 to 18	North of site	100	<2
PH-3	—	4 to 6	North of alleged TCE - UST northwest of site	0	Not screened
PH-3	—	6 to 8	North of alleged TCE -UST northwest of site	0	<2
PH-3	FB2JJ-116	8 to 10	North of alleged TCE -UST northwest of site	Not screened	Not screened
PH-3	—	10 to 12	North of alleged TCE -UST northwest of site	Not screened	<2
PH-3	—	12 to 14	North of alleged TCE -UST northwest of site	Not screened	Not screened
PH-3	—	14 to 16	North of alleged TCE -UST northwest of site	Not screened	<2
PH-3	—	16 to 18	North of alleged TCE -UST northwest of site	Not screened	Not screened
PH-4	—	6 to 8	West of alleged TCE - UST to northwest of site	0	<2
PH-4	—	10 to 12	West of alleged TCE - UST to northwest of site	0	<2
PH-5	—	6 to 8	West side of site	0	<1
PH-5	—	10 to 12	West side of site	0	<1
PH-5	—	16 to 18	West side of site	0	<1

Table 3-3

SUBSURFACE SOIL SAMPLE SUMMARY AND SCREENING RESULTS
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
DECEMBER 11-14, 1995

Field I.D.	EPA Sample Number	Depth Interval (feet)	Description	OVA Result (ppm)	PCB Screening Result (ppm)
PH-6	FB2JJ-113	6 to 8	Background location in Fairground Park	0	Not screened
PH-6	FB2JJ-114	10 to 12	Background location in Fairground Park	0	Not screened
PH-6	FB2JJ-115	16 to 18	Background location in Fairground Park	0	Not screened
PH-7	—	6 to 8	Parking lot southwest of site	0	<1
PH-7	—	10 to 12	Parking lot southwest of site	1	<1
PH-7	FB2JJ-118	16 to 18	Parking lot southwest of site	0	<1
PH-8	—	6 to 8	South of site	0	<1
PH-8	—	10 to 12	South of site	0	<1
PH-9	—	6 to 8	South of site	0	<2
PH-9	FB2JJ-119	10 to 12	South of site	0	<2
PH-9	—	16 to 18	South of site	20	<2
PH-10	—	6 to 8	East of site	0	<2
PH-10	—	10 to 12	East of site	0	<2
PH-10	—	16 to 18	East of site	0	<2
PH-11	—	6 to 8	East of site	0	<2
PH-11	—	10 to 12	East of site	0	<2
PH-11	—	16 to 18	East of site	0	<2
PH-12	FB2JJ-112	8 to 10	On-site just south of alleged UST on east side of site	0	>2 to <5
PH-12	FB2JJ-117	10 to 12	On-site just south of alleged UST on east side of site	0	<2
PH-12	—	16 to 18	On-site just south of alleged UST on east side of site	0	<2

Key:

<1 or <2 = Indicates PCB was not detected above the detection limit of 1 or 2 ppm. PCB screening was conducted with Millipore's Envirogard PCB in Soil Test Kit™.

— = Indicates not submitted for laboratory analysis. Laboratory samples submitted to EPA Region VII Laboratory on 12/14/95 for VOCs, semivolatiles, PCBs, and heavy metals; except FB2JJ-112 which was tested for PCBs only.

Table 3-4

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
SUMMARY OF SELECTED SUBSURFACE SOIL ANALYTICAL DATA
DECEMBER 1995

EPA SAMPLE NUMBER	FIELD I.D. and Depth Interval (feet)		CONTAMINANTS (µg/kg)				
			PCB Screening (ppm)	PCB-Aroclor 1242	PCB-Aroclor 1248	PCB-Aroclor 1254	Cis-1,2-dichloroethylene
FB2JJ-109	PH-2	4 to 6	Not Screened	U	39	43	U
-110	PH-2	10 to 12	<2	U	820	U	U
-111	PH-2	16 to 18	<2	U	U	U	U
-112	PH-12	8 to 10	>2 <5	2,800	U	810	U
-113	Back-ground	6 to 8	Not Screened	U	U	U	U
-114	Back-ground	10 to 12	Not Screened	12	U	U	U
-115	Back-ground	16 to 18	Not Screened	U	840	U	U
-116	PH-3	8 to 10	Not Screened	U	170	U	U
-117	PH-12	10 to 12	<2	U	50	33	26
-118	PH-7	16 to 18	<1	U	U	U	U
-119	PH-9	10 to 12	<2	U	U	U	U
-101	Rinsate		Not Screened	U	U	U	2 µg/L
3 Times Background			NA	36	2,520	U	U

Key:

Shaded Areas = Data exceed three times background level.
NA = Not applicable.
U = Actual value of the sample is less than measurement detection limit.

Table 3-5

DRINKING WATER, GROUND WATER, AND QC WATER SAMPLE SUMMARY
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
DECEMBER 11-14, 1995

Field I.D.	EPA Sample Number	Depth (feet)	Description
GW-1	FB2JJ-005	21	Ground water sample from location PH-4 to northwest of site, near alleged TCE-UST
GW-1	FB2JJ-005-D	21	Duplicate of FB2JJ-005.
GW-2	FB2JJ-006	27	Ground water sample from location PH-6, background location in Fairground Park.
GW-3	FB2JJ-011	24	Ground water sample from location PH-12, located on the site just south of alleged UST location on east site of the site.
DW-1	FB2JJ-007	NA	Public drinking water system sample from Boy's Club north of the site on Dodier Street.
DW-1	FB2JJ-007-D	NA	Duplicate of FB2JJ-007.
DW-2	FB2JJ-008	NA	Public drinking water system sample from Maintenance Control, business located in northwest portion of the building on the site.
DW-3	FB2JJ-009	NA	Public drinking water system sample from residence at 3515 B Dodier Street, to northeast of the site.
DW-4	FB2JJ-010	NA	Public drinking water system sample from Missionaries of Charity Convent at Fall and Cottage Street to south of the site.
NA	FB2JJ-101	NA	Rinsate sample for decontaminated soil sampling apparatus.
NA	FB2JJ-002	NA	Rinsate sample for decontaminated ground water sampling apparatus.
NA	FB2JJ-003-F	NA	Field blank prepared on the site.

Key:

NA = Indicates not applicable. A trip blank was not submitted due to the containers breaking after freezing prior to site activities. Samples were submitted to EPA Region VII Laboratory on 12/14/95 for total metals, PCBs, VOCs, and semivolatiles analyses.

Table 3-6

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
SUMMARY OF SELECTED GROUND WATER ANALYTICAL DATA
DECEMBER 1995

EPA SAMPLE NUMBER	FIELD I.D.	CONTAMINANTS (µg/L)							
		PCB-Aroclor 1242	Vinyl Chloride	Chloroform	Benzene	TCE	PCE	1,2-(trans) DCE	1,2-(cis) DCE
FB2JJ-005	GW-1	U	U	U	U	U	U	U	U
-005D	GW-1	U	U	U	U	U	U	U	U
-011	GW-3	0.22	220	2	6	72	0.5	4	660
-006	GW-2 (Background)	U	U	U	U	U	U	U	U
-002	Rinsate	U	U	U	U	U	U	U	U
-003F	Field Blank	U	U	U	U	U	U	U	U
3 Times Background		U	U	U	U	U	U	U	U
Health-Based Benchmarks	RAL	0.5	2	100	100	300	70	600	400
	MCL	0.5	2	100/80	5	5	5	100	70
	EPA Reference Dose Screening Concentration	Total PCBs 0.73	NL	370	NL	NL	350	700	370
	EPA Cancer Risk Screening Concentration	Total PCBs 0.011	0.045	14	2.9	7.7	0.67	NL	1.6
	EPA Cancer Classification	B2	A	B2	A	B2	NL	D	D

Key at end of table.

Table 3-6 (Cont.)

Note: All concentrations reported in μg/l unless noted in table. The sample locations are shown on Figures in appendices.

Key:

Shaded Area	=	Data exceed at least one of the listed health-based benchmarks or 3 times background.
U	=	Actual value of the samples is less than measurement detection limit.
RAL	=	Removal Action Level.
NL	=	Not Listed.
MCL	=	Maximum Contaminant Level.
A	=	Human Carcinogen.
B2	=	Sufficient evidence of carcinogenicity in animals with inadequate of lack of evidence in humans.
D	=	Not classifiable as to human carcinogenicity.

Table 3-7

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
SUMMARY OF SELECTED PUBLIC DRINKING WATER SYSTEM ANALYTICAL DATA
DECEMBER 1995

EPA SAMPLE NUMBER	FIELD I.D.	CONTAMINANTS (μg/L)				
		Aluminum	Lead	Chloroform	Bromodichloromethane	Dibromochloromethane
FB2JJ-007	DW-1	102	1.70	4	2	0.4
-007D	DW-1	51.3	0.600	5	2	U
-008	DW-2	51.8	1.00	4	2	U
-009	DW-3	U	0.700	4	2	U
-010	DW-4	U	U	4	2	U
-003F	Field Blank	U	U	U	U	U
Health-Based Benchmarks	RAL	NL	30	100	100	600
	MCL	NL	15	100/80	100/80	100/80
	MCLG	NL	0	0	0	60
	SMCL	50 TO 200	NL	NL	NL	NL
	EPA Reference Dose Screening Concentration	NL	NL	370	730	730
	EPA Cancer Risk Screening Concentration	NL	NL	14	1.4	1.0

Note: All concentrations reported in μg/l unless noted in table. The sample locations are shown on Figures in appendices.
Chloroform, bromodichloromethane, and dibromochloromethane are common by-products of municipal drinkjing water system's chlorination process.

Key:

Shaded Area = Data exceed at least one of the listed health-based benchmarks or 3 times background.
U = Actual value of the samples is less than measurement detection limit.
RAL = Removal Action Level.
NL = Not Listed.
MCL = Maximum Contaminant Level.
MCLG = Maximum Contaminant Level Goal.
Maximum Contaminant Level.

Table 3-8

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
SUMMARY OF SELECTED PUBLIC STORM SEWER SYSTEM SEDIMENT ANALYTICAL DATA
DECEMBER 1995

EPA SAMPLE NUMBER	FIELD I.D.	DESCRIPTION	CONTAMINANTS (μg/kg)							
			Arsenic	Chromium	Lead	PCB-Aroclor 1248	PCB-Aroclor 1254	PCB-Aroclor 1260	Methyl Ethyl Ketone	Acetone
FB2JJ-106	MH-7	South side of site, at the intersection of Fall and St. Louis	12,200	284,000	3,590,000	15,000	19,000	19,000	29	U
-107	MH-3	West side of site, midway between Dodier and St. Louis on Spring Street	839,000	7,780	332,000	43,000	U	U	83	480
-108	MH-5	East side of site, just east of newer addition to east side of building.	94,500,000	174,000	747,000	7,300,000	U	U	U	U
Bissel Point Treatment Plant Influent - 1985			—	—	—	ND	ND	ND	—	—
Bissel Point Treatment Plant Effluent - 4/4/95			—	—	—	ND	ND	ND	—	—

Note: All samples were submitted to EPA Region VII Laboratory on 12/14/95 for total metals, semivolatiles, VOCs, and PCBs.

Key:

U = Actual value of the samples is less than measurement detection limit.
— = Not analyzed for these parameters.

ND = Nondetect.

Table 3-9

SUMP SEDIMENT AND WATER SAMPLE SUMMARY AND SCREENING RESULTS
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
DECEMBER 11-14, 1995

Field I.D.	EPA Sample Number	Description	PCB Screening Result (ppm)
SP-1	FB2JJ-004	Water from west-most sump in north die cast room	Not screened
SP-1	—	Sediment from west-most sump in north die cast room	>100
SP-2	FB2JJ-001	Water from east-most sump in north die cast room	Not screened
SP-2	FB2JJ-001-D	Water from east-most sump in north die cast room	Not screened
SP-2	FB2JJ-100	Sediment from east-most sump in north die cast room	>100
SP-2	FB2JJ-100-D	Sediment from east-most sump in north die cast room	Not screened
SP-3	—	Sediment from sump on south wall in north die cast room	>100
SP-4	—	Sediment from north sump in south die cast room	>1 to <5
SP-5	—	Sediment from south sump in south die cast room	>100

Key:

— = Indicates not submitted for lab analysis. Samples were submitted to the EPA Region VII Laboratory on 12/14/95 for total metals, PCBs, VOCs, and semivolatiles analyses.

Table 3-10

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
SUMMARY OF SELECTED SUMP WATER AND SEDIMENT ANALYTICAL DATA
DECEMBER 1995

EPA SAMPLE NUMBER	FIELD I.D.	MATRIX	CONTAMINANTS (µg/kg)									
			Lead (mg/kg)	PCB-Aroclor 1248	Di-N-octyl phthalate	1,1-DCA	Chloro-benzene	Acetone	Methyl Ethyl Ketone	1,4-dichloro-benzene	1,3-dichloro-benzene	1,2-dichloro-benzene
FB2JJ-100	SP-2	Sediment	1,090	410,000,000	210,000	U	U	200	54	280	140	38
-100D	SP-2	Sediment	1,370	30,000,000	U	30	27	240	64	370	180	44
-001	SP-2	Water	16.2 (µg/L)	29 (µg/L)	U	2 (µg/L)	U	U	U	U	U	U
-001D	SP-2	Water	63.3 (µg/L)	44,000 (µg/L)	U	2 (µg/L)	U	U	U	0.8 (µg/L) (para)	U	U
-004	SP-1	Water	25.6 (µg/L)	51 (µg/L)	U	0.8 (µg/L)	U	U	U	U	U	U

Key:

U = Actual value of the sample is less than the measurement detection limit.

Table 3-11

DRUM SAMPLE SUMMARY AND SCREENING RESULTS
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
DECEMBER 11-14, 1995

Field I.D.	EPA Sample Number	Waste Volume (gallons)	Description	PCB Screening Result (ppm)
CC01	—	Empty	25-gallon drum	—
CC02	FB2JJ-018	55	Overpacked 55-gallon drum of dark amber viscous liquid	>50
CC03	—	55	Overpacked 55-gallon drum of sludge-like material	<50, negative
CC04	FB2JJ-019	55	Overpacked 55-gallon drum of amber liquid	inconclusive
CC05	—	Empty	Overpacked 55-gallon drum	—
CC06	—	55	Overpacked 55-gallon drum of light yellow liquid	<50, slightly positive
CC07	—	20	55-gallon drum of solid trash material	Could not be sampled
CC08	—	<1/4" in bottom	Overpacked 55-gallon drum of amber viscous liquid	Could not be sampled
CC09	—	Empty	55-gallon drum	—
CC10	—	30	Overpacked 55-gallon drum of sludge	<50, negative
CC11	—	55	Overpacked 55-gallon drum of sludge	<50, but positive
CC12	—	10	30-gallon drum of solidified polymer-like material	Could not be sampled
CC13	—	Empty	20-gallon drum	—
CC14	—	Empty	55-gallon drum	—
CC15	—	Empty	55-gallon drum	—
CC16	—	Empty	55-gallon drum	—
—	—	Unknown	Two overpacked drums with PCB placarding	Not sampled
—	—	Unused	Two overpacked drums	—
—	—	30	55-gallon drum labeled decon. water	Not sampled

Key:

— = Indicates not sampled, not screened, or not applicable. PCB screening performed with Chlor-N-Oil™ kits. Samples submitted to EPA Region VII Laboratory on 12/14/95 for total metals, PCBs, VOCs, and semivolatiles analyses.

Table 3-12

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
TDD: S07-9601-027/PAN: 0027CCSSXX
SUMMARY OF SELECTED DRUM SAMPLE ANALYTICAL DATA
DECEMBER 1995

EPA SAMPLE NUMBER	FIELD I.D.	CONTAMINANTS (µg/kg)								
		PCB Screening (ppm)	PCB-Aroclor 1248	PCB-Aroclor 1260	Phenanthrene	PCE	1,2-dichloro-benzene	1,2,4-trichloro-benzene	1,3-dichloro-benzene	1,4-dichloro-benzene
FB2JJ-018	CC02	>50	10,000	8,400	520,000	46,000	250	U	U	U
-019	CC04	Inconclusive	U	580,000,000	U	900	2,200,000	210,000,000	680,000	780,000

Key:

U = Actual value of the sample is less than measurement detection limit.

4. GROUND WATER PATHWAY

4.1 HYDROGEOLOGY

A well search by MDNR determined only four registered wells in the general area of the site. No wells have been registered since the passing of the Water Well Driller's Act in 1986 required such registration. Therefore, the available information on hydrogeology in the area is limited. The following general description is based on the available literature.

The site lies within an area of karst terrain (Reference 26). The stratigraphic sequence consists primarily of limestone and dolomite which were deposited, for the most part, in shallow epicontinental seas. Rocks range in age from Precambrian to MIssissippian. A general geologic/hydrogeologic column is provided in Figure 4-1. The Precambrian rocks and the lower part of the Bonneterre Formation are the only units that do not crop out in the area. The only deposits of Cenozoic age having significant water-yielding properties are the water-saturated sands and gravels in the alluvium. It is possible that the basal portion of part of the fill in the large valleys is actually of Pleistocene age (Reference 9). A detailed description of the Mississippian System, Meramecian Series, and St.Louis Limestone that underlie the site area can be found in <u>Paleozoic Succession in Missouri, Part 4-Mississippian System,</u> 1986, by Thomas L. Thompson, MDNR.

Alluvium underlying the floodplains and terraces of the Mississippi, Missouri, and Meramec Rivers extends over 277 square miles in a three-county area. The thickness of the alluvium is variable because of irregularities in the bedrock surface upon which it was deposited. The maximum known thickness of alluvium is 150 feet, near the mouth of the Missouri river. The site lies in the Post-Maquoketa aquifer group. Post-Maquoketa includes all bedrock units above the Maquoketa Shale, which probably acts as a confining bed in the area. Movement of ground water in the alluvial aquifers is generally toward the major streams with which they are hydraulically connected (Reference 9). The depth to ground water at the site, based on the collection of ground water samples with the Geoprobe, was approximately 24 feet on December 13, 1995.

4.2 GROUND WATER TARGETS

A survey of registered wells conducted by the MDNR located only four wells within the target distance limit of four miles from the Carter Carburetor site (Reference 10; Figure 4-2). These wells, based on ownership information, are likely used for industrial purposes. One well was determined to no longer be in use. No other ground water targets exist for the site. The City of St. Louis obtains all its drinking water from intakes on the Missouri and Mississippi Rivers. St. Louis does not allow wells to be developed within the city limits (Reference 11).

4.3 GROUND WATER PATHWAY CONCLUSIONS

Ground water samples collected at the Carter Carburetor site have determined a release of contaminants to the ground water. PCB-aroclor 1242; VC; chloroform; benzene; TCE; PCE; and 1,2-(cis and trans) DCE were all detected at least three times above background levels. No metals were detected at concentration exceeding three times background levels in the groundwater and soil. In addition, PCBs were detected in the ground water and soil on and off the site at levels above three times background levels and are available to migrate to the ground water. However, no ground water targets have been identified for the site other than industrial uses.

Because contaminants are present in ground water and subsurface soil at the site, the remote possibility of contaminant infiltration into the public drinking water distribution system was investigated by sampling several private taps around the site. This hypothesis is highly unlikely, because the distribution lines are pressurized. No PCBs were detected in these samples. Only aluminum and bromodichloromethane were detected above benchmarks in the public drinking water system samples. The trihalomethane compounds (bromodichloromethane, dibromochloromethane, chloroform) that were detected are not likely related to the Carter Carburetor site. Trihalomethanes are often found in drinking water supplies because they are by-products of the chlorination process. Chlorine reacts with the organic matter present in natural waters to form chloroform and other trihalomethanes (Reference 8).

SYSTEM	SERIES	GROUP	FORMATION	AVERAGE THICKNESS (Feet)	GENERAL LITHOLOGY	HYDROLOGY
				75	Soil	
MISSISSIPPIAN	Meramecian		St. Louis Limestone	95	Limestone with minor shale.	Aquifer
MISSISSIPPIAN	Meramecian		Salem Formation	125	Cherty limestone with minor shale.	Aquifer
MISSISSIPPIAN	Meramecian / Osagean		Warsaw Formation	90	Calcareous shale with cherty limestone.	Aquifer
MISSISSIPPIAN	Osagean		Burlington and Keokuk Limestones	155	Dense cherty limestone.	Aquifer
MISSISSIPPIAN	Kinderhookian		Fern Glen Fm.	70	Mottled, cherty argillaceous limestone.	Aquifer
MISSISSIPPIAN	Kinderhookian		Compton LS.	70	Limestone, dolomitic limestone, shale and siltstone.	Aquifer
DEVONIAN			Chattanooga Shale	15	Fissile, black carbonaceous shale.	Aquifer
Silurian (formation name unknown)				95	Cherty limestone.	Aquifer
ORDOVICIAN	Cincinnatian		Maquoketa Shale	115	Silty, calcareous or dolomitic shale.	Aquitard
ORDOVICIAN	Cincinnatian / Mohawkian		Kimmswick Limestone	90	Massive limestone.	Aquifer
ORDOVICIAN	Mohawkian		Plattin Limestone	175	Finely crystalline limestone.	Aquifer
ORDOVICIAN	Mohawkian	Ancell	Joachim Dolomite	195	Argillaceous dolomite.	Aquifer
ORDOVICIAN	Whiterockian	Ancell	St. Peter Sandstone	90	Sandstone.	Aquifer
ORDOVICIAN	Whiterockian		Everton Fm.	50	Dolomitic sandstone and sandstone.	Aquifer
	Canadian		Cotter Dolomite	200	Cherty dolomite; some sandstone beds	Aquifer
	Canadian		Jefferson City Dolomite	200	Cherty dolomite	Aquifer
	Canadian		Roubidoux Formation	150	Cherty dolomite, with sandstone beds.	Aquifer
	Canadian		Gasconade Dolomite	250	Cherty limestone and dolomite, sandstone bed at base of formation.	Aquifer
CAMBRIAN	Upper		Eminence and Potosi Dolomites; Ironton/Galesville Formation			Aquifer
			Approximately 1,400 feet of Cambrian age cherty dolomites, siltstones and shale.			
PRE-CAMBRIAN			Bonneterre Formation			
PRE-CAMBRIAN			Undifferentiated		Metamorphic and igneous rock	Aquitard

KEY: Soils; Sand & Gravel; Sandy Clays/ Clayey Sands; Sandstone or Sands; Shale or Clays; Limestone; Dolomite; Crystalline Basement

Note: Shading indicates higher yield portions of the aquifer.

Sources: MDNR, 1981; MDNR well logs, 1915 and 1936.

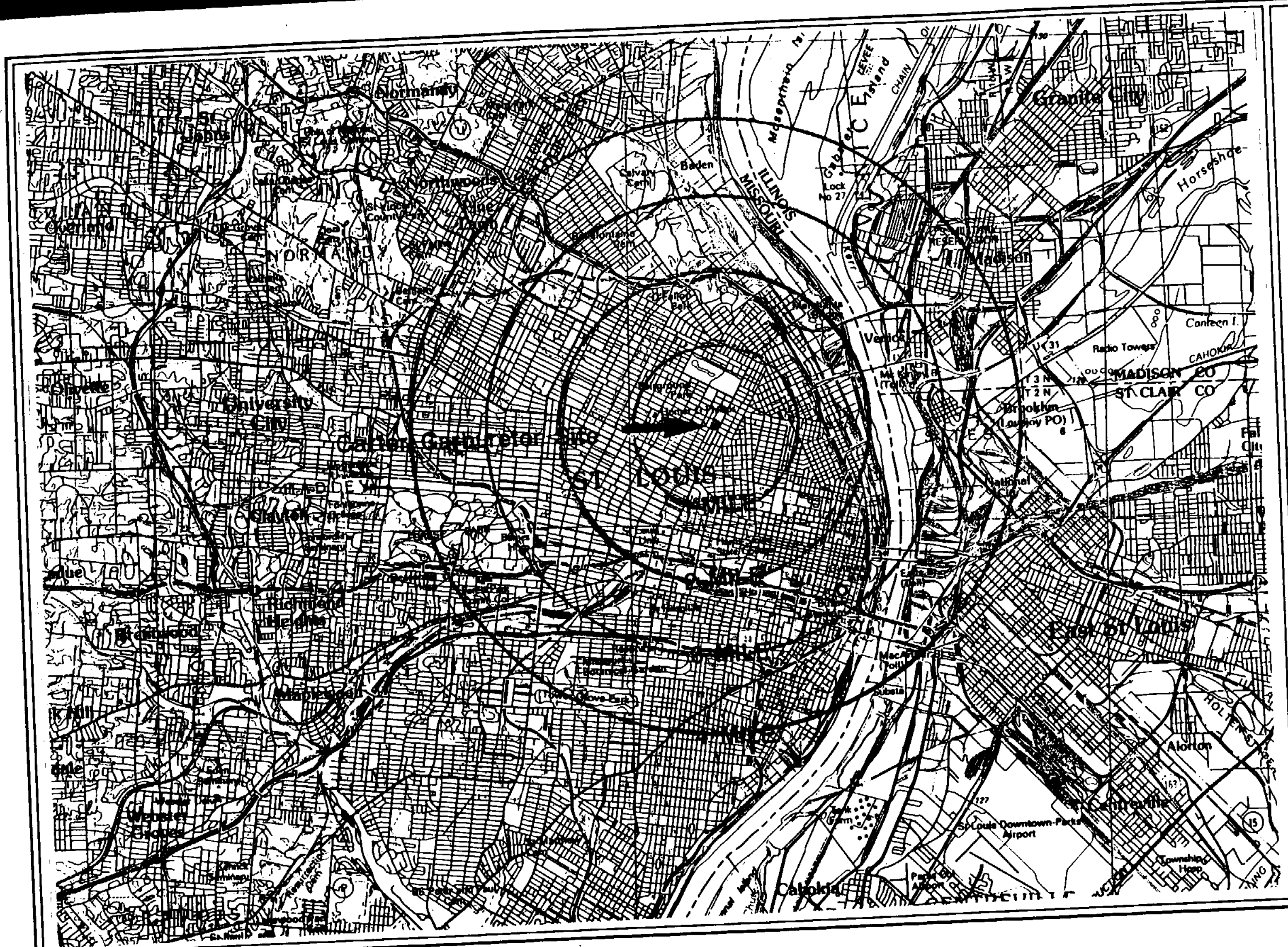
ecology and environment, inc.

Carter Carburetor Site
St. Louis, Missouri

TDD: S07-9601-027
PAN: 0027CCSSXX
Prepared by TATM L.J.Baer
July 1995

CCSHYDRO.CDR

Figure 4-1: GENERAL GEOLOGIC/HYDROGEOLOGIC COLUMN



Carter Carburetor

St. Louis, MO

Ecology & Environment, Inc./START
PAN: 0027CCSSXX
TDD: S07-9601-027
Prepared by Mark Mayo
August 1995

SOURCE: USGS 30 x 60 Minute
St. Louis, MO

Figure 4-2: 4-Mile Radius Map

5. SURFACE WATER PATHWAY

5.1 HYDROLOGY

Overland drainage from the site would generally flow northeast in the direction of the Mississippi River. However, a well defined overland migration pathway (ditch or stream) does not exist near the Carter Carburetor site. Surface run-off would likely enter the storm sewer system for the City of St. Louis and travel approximately 2 miles to the Bissell Point Treatment Plant. There, the surface run-off is combined with the sewer system, treated, and discharged to the Mississippi River (Reference 12). The 15-mile target distance limit ends at approximately mile 171 on the Mississippi River, near the Lemay area of the City of St. Louis (Figure 5-1). The average discharge of the Mississippi River at St. Louis is 151,700 cubic feet/second (cfs) (Reference 13).

5.2 SURFACE WATER TARGETS

The City of St. Louis obtains its drinking water from the Missouri and Mississippi Rivers. The intakes are located upstream of the site (Reference 11). There are no surface water intakes for drinking water within the 15-mile target distance limit. The closest city downstream of St. Louis is Arnold, Missouri. Arnold obtains its drinking water from St. Louis (Reference 14).

Bald eagles, a federally threatened species, may winter along the Mississippi River within 15 miles downstream of the site. In addition, the pallid sturgeon, a federally endangered species, ranges widely in the Mississippi River system (Reference 15). Wetlands are scattered along the Mississippi River 15 miles downstream from the site. A roughly estimated 8 miles of wetlands from the Mississippi River along this pathway (Reference 27).

The Mississippi River is also a commercial fishery within the 15-mile target distance limit. In 1992 and 1993, 8,960 pounds of fish were caught by commercial fishermen in St. Louis on the Mississippi River. Commercial species reported include paddlefish, gar, carp, sturgeon, blue catfish, channel catfish, flathead catfish, drum, and buffalo (Reference 16). The Mississippi River is also a recreational fishery from which numerous species of sport fish may be taken.

5.3 SURFACE WATER PATHWAY CONCLUSIONS

Analytical results of samples collected during the PA/SI have documented PCBs and metals such as lead and arsenic in the surface soil and public storm sewer system leading off of the Carter Carburetor site. Analytical results of samples of the influent and effluent at the Bissel Point Treatment Plant have not detected these contaminants. Therefore, there has not been a documented release of contaminants from the site to a surface water body. However, these contaminants are available to migrate to the Mississippi River via the surface water pathway. In addition, these contaminants and several VOCs were detected in subsurface soil and ground water at the site. Because the alluvial aquifer is hydraulically connected to the Mississippi River, there is also a potential for contaminants to migrate to surface water via ground water. However, this is a low potential because the Mississippi River is approximately 2 miles from the site. It would likely be difficult to document a release of these contaminants to surface water, because the high discharge rate of the Mississippi River (151,700 cfs) would dilute the concentrations of contaminants found at the site.

The surface water pathway threat is of moderate concern at the Carter Carburetor site. No drinking water targets were identified for the site. Targets that were identified include commercial and sport fisheries and threatened and endangered species.

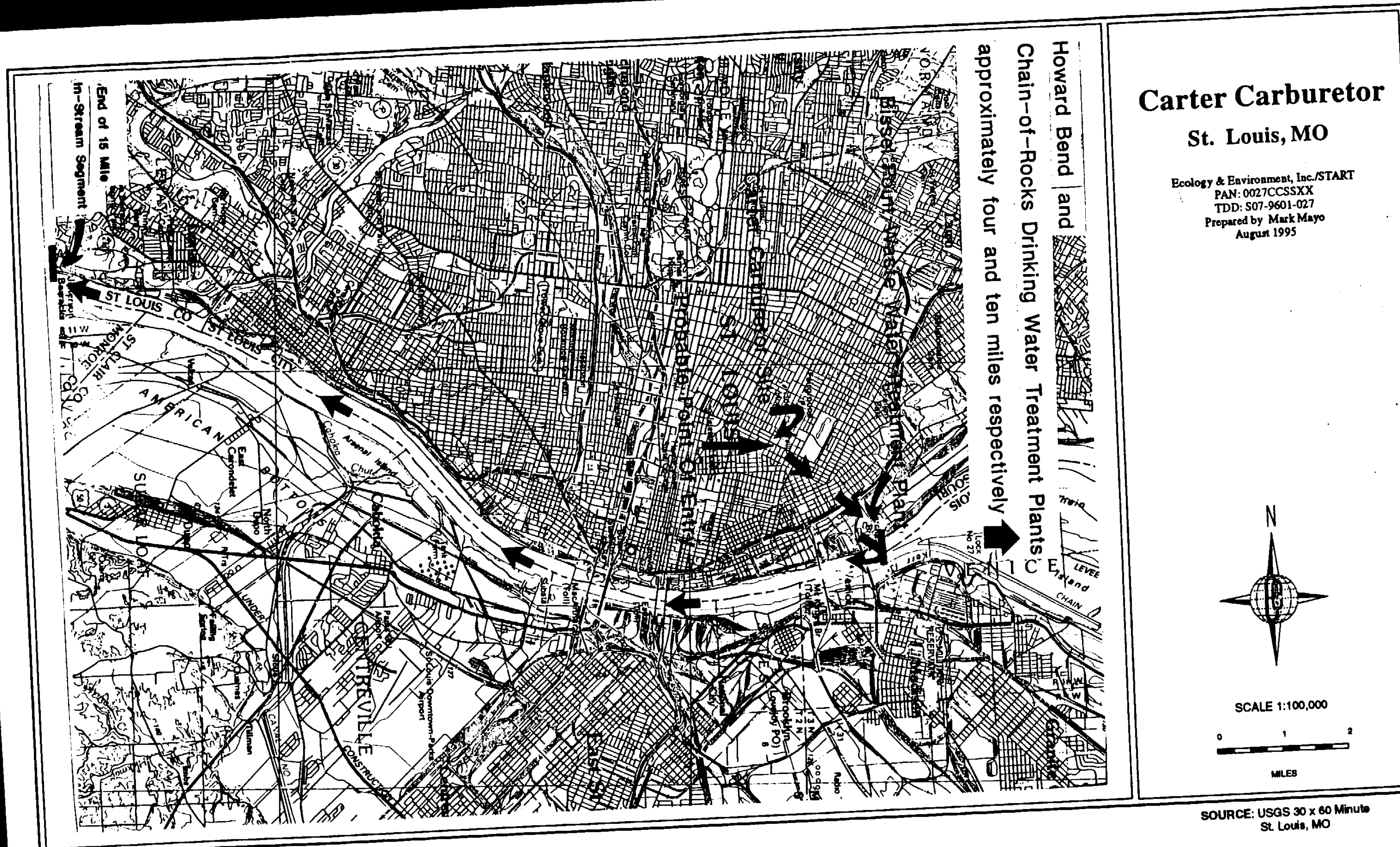


Figure 5-1: Surface Water Pathway Map

6. SOIL EXPOSURE AND AIR PATHWAYS

6.1 PHYSICAL CONDITIONS AND TARGETS

The Carter Carburetor site is located in an urban area. Therefore, few areas of soil are exposed at the surface. The site itself is covered by concrete and asphalt. In low-lying areas of the site, sediment has been deposited. Exposed surface soil is present off the site in residential and commercial yards. The Herbert Hoover Boy's Club, located to the north-northeast of the site in the predominant wind direction (Reference 17), has a large area of exposed surface soil that is used for recreational purposes. There are approximately 350 children enrolled at the Boy's Club per semester (Reference 25). Laboratory and on-site analysis of surface soil has indicated PCB contamination, above background levels, off the site in four directions from the site (north, south, east, and west).

Portions of the site are currently used by four businesses that are not related to the site activities that generated waste (Reference 18). A total of 25 full-time workers are employed at the four businesses (References 19, 20, and 21). There are commercial businesses and multi-family residences within 200 feet of the site. There are an average of 2.34 persons per household in the City of St. Louis. Based on the GEMS database, 246,229 people live within 4 miles of the site (Reference 22). Peregrine falcons, a federally endangered species, are known to reside in two locations within 2.3 miles of the site. The Scott Joplin State Historic site is located within 1.1 miles of the Carter Carburetor site (Reference 15 and 16). A roughly estimated 400 acres of wetlands are within 4 miles of the site (Reference 27).

6.2 SOIL EXPOSURE AND AIR PATHWAY CONCLUSIONS

There is a significant threat to the soil exposure and air pathways at the Carter Carburetor site. Laboratory analytical results of three samples from the PA/SI indicated individual PCB-aroclors up to 2,600 μg/kg in surface soil off the site. One of these samples was located on a residential property (Field I.D. SS11). In addition, on-site screening of additional surface soil samples indicated PCB contamination off the site in all directions from the site. One of these locations was on the Boy's Club property (Field I.D. SS8). Another was on a second residential property (Field I.D. SS12). Based on laboratory and on-site screening there are 354 people on contaminated property (Level I or Level II targets). This includes 2 residential properties and the Boy's Club.

This soil contamination is most likely the result of a release of contaminants through the air pathway in airborne PCB-laden particulates. Wipe samples collected, during previous investigations, from exhaust vents and smokestacks on the site detected PCB contamination. This also supports the possibility of a release to the air pathway.

7. SUMMARY AND CONCLUSIONS

Carter Carburetor and Carter Automotive companies operated at the site from the 1930's until 1985. Operations included die casting of aluminum and zinc metal into carburetor components. In 1986, it was alleged that Hubert Thompson was dismantling transformers and related equipment at the site. In 1987, the EPA conducted a TSCA inspection. Subsequently, the transformers, transformer oil, and contaminated concrete were removed from the site. Followup inspections by the EPA and MDNR determined that PCB contamination at the site exceeded regulatory levels. Currently, Carter Building, Inc. and the St. Louis Development Land Reutilization Authority own the site. Portions of the site are occupied and used for activities unrelated to Carter Carburetor's operations.

The TAT conducted several investigations in 1994 and 1995. Based on background investigation and analytical results of sampling, TAT determined several confirmed and potential contaminant sources at the site including transformers, USTs, drums, metal shavings, smokestack/exhaust ventilation, sumps/trenches, and dust or building material. The EPA is currently negotiating removal actions at the site with the responsible parties.

An integrated site assessment (PA/SI) was conducted by the TAT from December 8 through 14, 1995. The TAT collected and screened 56 subsurface soil, surface soil, sediment, and drum samples for PCBs and/or VOCs on the site. The TAT also collected 38 samples to be analyzed by the Region VII EPA Laboratory for total metals, VOCs, PCBs, and semivolatiles. These samples included background, duplicate and quality control samples from surface soil, subsurface soil, on-site sumps, public sewer system, drums, public drinking water, and ground water from on and off the site.

Based on analytical results and other research conducted during the PA/SI, contamination has been identified on and off the site. Results of drum sampling indicated the presence of several VOCs including 1, 2, 4-trichlorobenzene at 210,000,000 μg/kg, and PCBs up to 580,000,000 μg/kg. On-site screening of sump sediments indicated the presence of PCBs in five sumps. Laboratory analyses of sump sediments determined levels of PCBs up to 410,000,000 μg/kg. Lead and several VOCs were also detected in the sumps. Ground water sample results found PCBs at 0.22 μg/L, and VOCs such as vinyl chloride, benzene, TCE, and PCE. PCBs were detected in subsurface soil on and off the site at concentrations up to 2,800 μg/kg. Results of surface soil screening for PCBs determined PCB contamination off the site in four directions (north, south, east, and west). Laboratory analyses of several of these samples determined PCB concentrations up to 2,600 μg/kg for individual aroclors. Analyses found PCBs, metals, and VOCs in sediment samples collected from the public storm sewer system just off the site. PCB levels in the storm sewer sediment were up to 7,300,000 μg/kg. Analytical data obtained from Bissel Point Treatment Plant indicated PCB contamination had not reached the Mississippi River via the public storm sewer system. Samples of the public drinking water system collected from four locations did not reveal that contaminants from the site had infiltrated the public water supply.

8. REFERENCES

1. U.S. Geological Survey, 7.5 Minute Series Topographic Map, Granite City, ILL-MO Quadrangle, photorevised 1982.

2. Ecology & Environment, Inc./TAT, June 30, 1994, Site Assessment: Carter Carburetor Manufacturing Facility, TDD: T07-9403-001, Overland Park, Kansas.

3. Berry, Betty, EPA OSC, November 1995, facsimile to Steve Sanchez, E & E/TAT, Overland Park, Kansas.

4. U.S. Environmental Protection Agency, November 28, 1995, Draft Sampling Plan for the Integrated Site Assessment of the Carter Carburetor site, as submitted by E & E/TAT, Overland Park, Kansas.

5. Ecology & Environment, Inc./TAT, February 23, 1994, Site Assessment: The Former Carter Carburetor Manufacturing Facility, TDD: T07-9310-027B, Overland Park, Kansas.

6. Ecology & Environment, Inc./TAT, May 9, 1995, Site Assessment: Carter Carburetor, TDD: T07-9503-001, Overland Park, Kansas.

7. Ecology & Environment, Inc./TAT, September 7, 1995, CERCLA Site Assessment: Carter Carburetor, TDD: T07-9505-009, Overland Park, Kansas.

8. Clement Associates, Inc., September 27, 1985, Chemical, Physical, and Biological Properties of Compounds Present at Hazardous Waste Sites, Arlington, Virginia.

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14. Marty, Diane, Arnold Public Water District No. 1, August 15, 1995, telephone conversation with Steve Sanchez, E & E/TAT, Overland Park, Kansas.

15. Missouri Department of Conservation, August 25, 1995, Dan Dichneite letter to Steve Sanchez, E & E/TAT, Overland Park, Kansas.

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17. National Weather Service, December 6, 1995, Ann telephone conversation with Steve Sanchez, E & E/TAT, Overland Park, Kansas.

18. Kerr, Tom, Fiesta Corporation, September 18, 1995, telephone conversation with Steve Sanchez, E & E/TAT, Overland Park, Kansas.

19. Taylor, King, Caribou Corporation, September 18, 1995, telephone conversation with Steve Sanchez, E & E/TAT, Overland Park, Kansas.

20. Tow, Karen, Maintenance Control, September 18, 1995, telephone conversation with Steve Sanchez, E & E/TAT, Overland Park, Kansas.

21. Will, Roger, Wilco Plastics, September 18, 1995, telephone conversation with Steve Sanchez, E & E/TAT, Overland Park, Kansas.

22. U.S. Environmental Protection Agency, 1995, GEMS Database, Washington, D.C.

23. U.S. Environmental Protection Agency, September 1995, Superfund Chemical Data Matrix, Washington, D.C.

24. U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing, 1990 CPH-2-1.

25 Stokes, Yvonne, Herbert Hoover Boy's Club, September 18, 1995, telephone conversation with Steve Sanchez, E & E/TAT, Overland Park, Kansas.

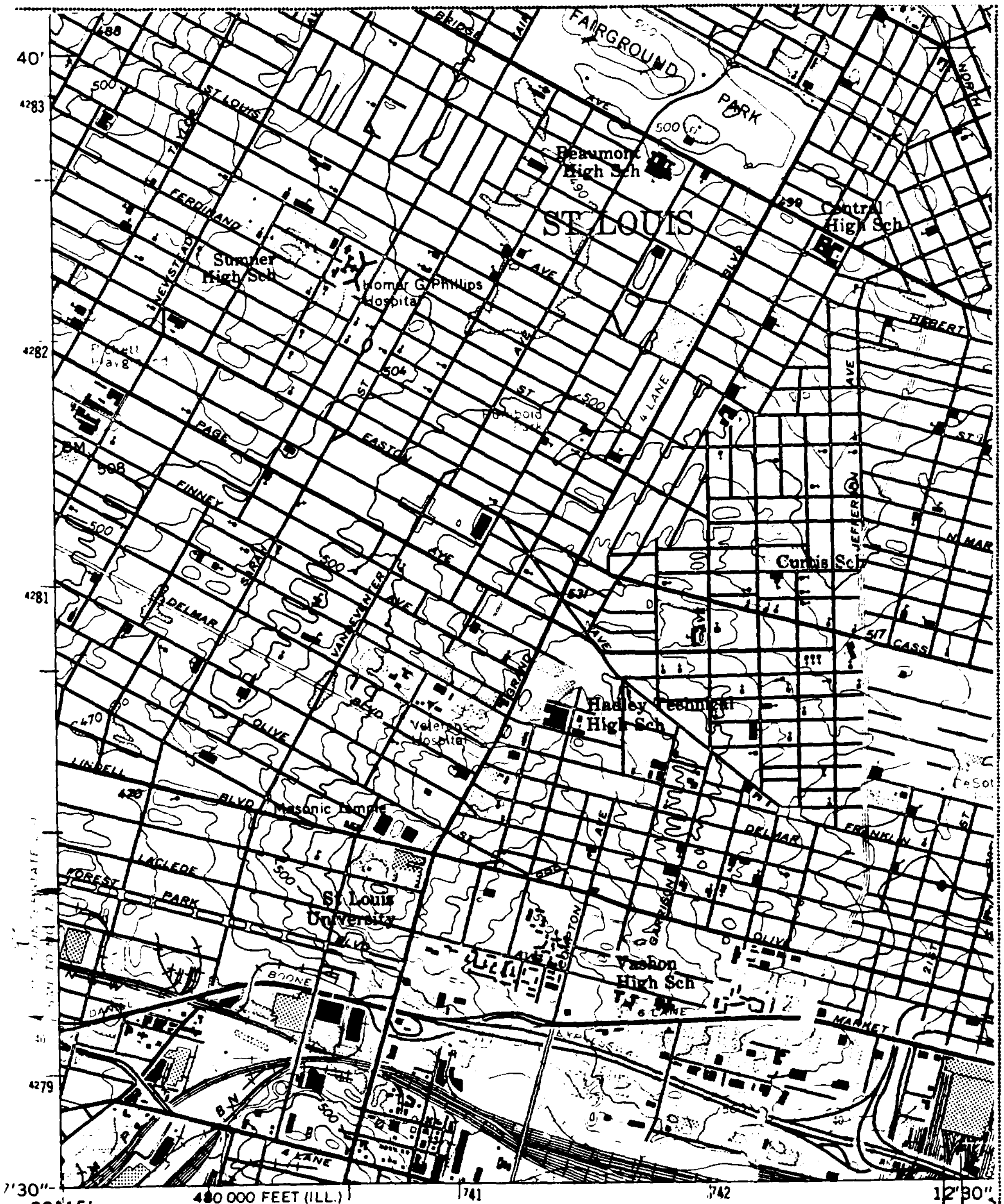
26. Missouri Department of Natural Resources, 1982, Missouri Water Atlas, Jefferson City, Missouri.

27. U.S. Department of Interior, 1993, National Wetlands Inventory, Granite City, Cahokia, and Webster Groves Quadrangle Maps, Twin Cities, Minnesota.

APPENDIX A

SITE LATITUDE AND LONGITUDE CALCULATION WORK SHEETS

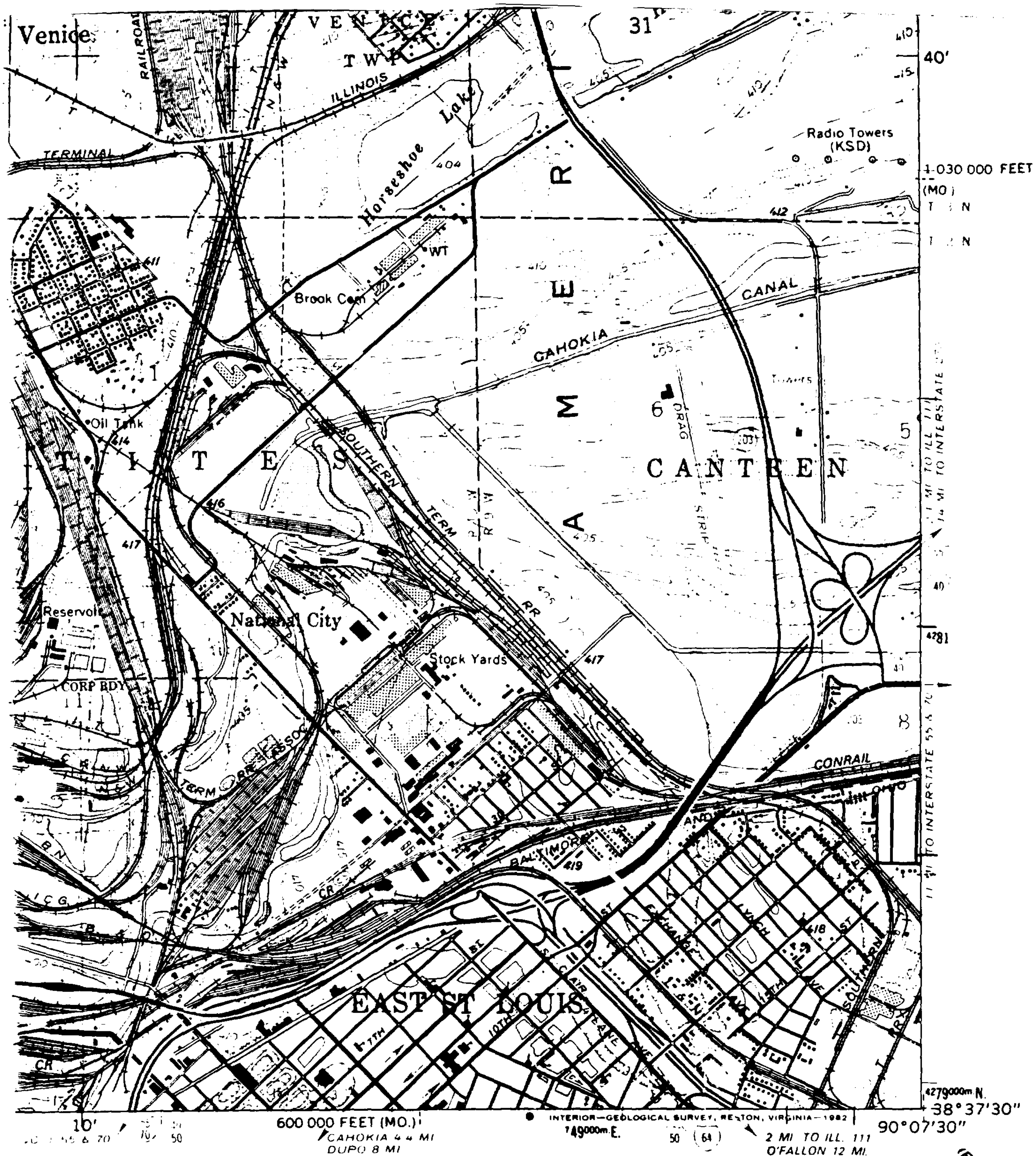
SITE NAME: Carter Carburetor CERCLIS NUMBER: MOD000822601



TOPOGRAPHIC MAP QUADRANGLE NAME: Granite City, IL-MO SCALE: 1:24,000

COORDINATES OF LOWER RIGHT-HAND CORNER OF 2.5-MINUTE GRID:

LATITUDE: 38° 37' 30" LONGITUDE: 90° 12' 30"



(FRENCH VILLAGE)
2961 II SE

1 MILE

ROAD CLASSIFICATION

Heavy-duty	Light-duty
Medium-duty	Unimproved dirt

Interstate Route U. S. Route State Route

QUADRANGLE LOCATION

22092,

Revisions shown in purple compiled by the Geological Survey from aerial photographs taken 1979 and other sources Map edited 1982. This information not field checked

Purple tint indicates extension of urban area

GRANITE CITY, ILL.—MO.
N3837.5—W9007.5/7.5

1954

PHOTOREVISED 1982

DMA 2961 II NW—SERIES V863

LATITUDE AND LONGITUDE CALCULATION WORKSHEET #2
LI USING ENGINEER'S SCALE (1/60)

SITE NAME: Carter Carburetor CERCLIS #: MOD000822601

AKA: — SSID: JJ

ADDRESS: 2800 to 2840 N. Spring Av.

CITY: St. Louis STATE: MO ZIP CODE: 63107

SITE REFERENCE POINT: Center of a large industrial building 0.7 mi. S. of Fairground Park

USGS QUAD MAP NAME: Granite City, IL-MO TOWNSHIP: 45 N/S RANGE: 7 E/W

SCALE: 1:24,000 MAP DATE: 1954 rev. 1982 SECTION: NA 1/4 NA 1/4 NA 1/4

MAP DATUM: 1927 1983 (CIRCLE ONE) MERIDIAN: fifth principal

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 7.5' MAP (attach photocopy):

LONGITUDE: 90° 07' 30" LATITUDE: 38° 37' 30"

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 2.5' GRID CELL:

LONGITUDE: 90° 12' 30" LATITUDE: 38° 37' 30"

CALCULATIONS: LATITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM LATITUDE GRID LINE TO SITE REF POINT: 340

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x 0.3304 = 112.3"

C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 1' 52.3"

D) ADD TO STARTING LATITUDE: 38° 37' 30.0" + 1' 52.3" =

SITE LATITUDE: 38° 39' 22.3"

CALCULATIONS: LONGITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM RIGHT LONGITUDE LINE TO SITE REF POINT: ~~245~~ 110

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x ~~0.3304~~ 0.4225 = 46.5"

C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 0' 46.5"

D) ADD TO STARTING LONGITUDE: 90° 12' 30.0" + 0' 46.5" =

SITE LONGITUDE: 90° 13' 16.5"

INVESTIGATOR: Scott Hayes DATE: 2/12/96

APPENDIX B

PRELIMINARY ASSESSMENT FORM

OMB Approval Number: 2050-0095
Approved for Use Through: 1/92

EPA Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: MO | CERCLIS Number: MOD000822601

CERCLIS Discovery Date:

1. General Site Information

Name: Carter Carburetor	Street Address: 2800-2840 N. Spring Ave.				
City: St. Louis	State: MO	Zip Code:	County: —	Co. Code: —	Cong. Dist: 1
Latitude: 38° 39' 22.3" Longitude: 90° 13' 16.5"	Approximate Area of Site: 9 Acres ____ Square Ft		Status of Site: ☒ Active ☐ Inactive ☐ Not Specified ☐ NA (GW plume, etc.) currently unrelated activities		

2. Owner/Operator Information *Own portions of the site

*Owner: St. Louis Development Land Reutilization Authority	*Operator: Carter Building, Inc.
Street Address: 330 N. 15th St.	Street Address: 818 Olive St., Ste. 835
City: St. Louis	City: St. Louis
State: MO Zip Code: 63103 Telephone: (-) -	State: MO Zip Code: 63101 Telephone: (314) 241-4471

Type of Ownership:
- ☒ Private
- ☐ Federal Agency Name________
- ☐ State
- ☐ Indian
- ☐ County
- ☒ Municipal
- ☐ Not Specified
- ☐ Other________

How Initially Identified:
- ☐ Citizen Complaint
- ☐ PA Petition
- ☐ State/Local Program
- ☐ RCRA/CERCLA Notification
- ☐ Federal Program
- ☐ Incidental
- ☒ Not Specified
- ☐ Other________

3. Site Evaluator Information

Name of Evaluator: Scott Hayes	Agency/Organization: E+E / START	Date Prepared: 2/16/96
Street Address: 6405 Metcalf, Ste. 404	City: Overland Park	State: KS
Name of EPA or State Agency Contact: Betty Berry	Street Address: 25 Funston Rd.	
City: Kansas City	State: KS	Telephone: (913) 551-5067

4. Site Disposition (for EPA use only)

Emergency Response/Removal Assessment Recommendation:
- ☐ Yes
- ☐ No
- Date: ________

CERCLIS Recommendation:
- ☐ Higher Priority SI
- ☐ Lower Priority SI
- ☐ NFRAP
- ☐ RCRA
- ☐ Other________
- Date: ________

Signature:

Name (typed):

Position:

EPA **Potential Hazardous Waste Site Preliminary Assessment Form - Page 2 of 4**

CERCLIS Number: MOD000822601

5. General Site Characteristics

Predominant Land Uses Within 1 Mile of Site (check all that apply):
- ☐ Industrial
- ☒ Commercial
- ☒ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility ____________
- ☐ Other ____________

Site Setting:
- ☒ Urban
- ☐ Suburban
- ☐ Rural

Years of Operation:
Beginning Year 1930s
Ending Year 1985
☐ Unknown

Type of Site Operations (check all that apply):
- ☒ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals (e.g., pesticides, fertilizers)
  - ☐ Miscellaneous Chemical Products (e.g., adhesives, explosives, ink)
  - ☐ Primary Metals
  - ☒ Metal Coating, Plating, Engraving
  - ☒ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility ____________
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non- or Late Filer"
- ☐ Not Specified
- ☐ Other ____________

Waste Generated:
- ☒ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:
- ☐ Present Owner
- ☒ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:
- ☒ Yes
- ☐ No

Distance to Nearest Dwelling, School, or Workplace:
0 Feet

6. Waste Characteristics Information

Source Type: (check all that apply)	Source Waste Quantity: (include units)	Tier*:
☐ Landfill		
☐ Surface Impoundment		
☒ Drums	500 ga.	V
☒ Tanks and Non-Drum Containers	unknown	V
☐ Chemical Waste Pile		
☐ Scrap Metal or Junk Pile		
☐ Tailings Pile		
☐ Trash Pile (open dump)		
☐ Land Treatment		
☐ Contaminated Ground Water Plume (unidentified source)		
☐ Contaminated Surface Water/Sediment (unidentified source)		
☒ Contaminated Soil	unknown	A
☒ Other building, sumps	unknown	V
☐ No Sources		

* C = Constituent, W = Wastestream, V = Volume, A = Area

General Types of Waste (check all that apply)
- ☒ Metals
- ☒ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☐ Other ____________

Physical State of Waste as Deposited (check all that apply):
- ☒ Solid
- ☐ Sludge
- ☐ Powder
- ☒ Liquid
- ☒ Gas /Vapor

EPA **Potential Hazardous Waste Site Preliminary Assessment Form - Page 3 of 4**

CERCLIS Number: MOD000822601

7. Ground Water Pathway

Is Ground Water Used for Drinking Water Within 4 Miles:
- ☐ Yes
- ☒ No

Type of Drinking Water Wells Within 4 Miles (check all that apply):
- ☐ Municipal
- ☐ Private
- ☒ None

Depth to Shallowest Aquifer: 24 Feet

Karst Terrain/Aquifer Present:
- ☒ Yes
- ☐ No

Is There a Suspected Release to Ground Water:
- ☒ Yes
- ☐ No

Have Primary Target Drinking Water Wells Been Identified:
- ☐ Yes
- ☒ No

If Yes, Enter Primary Target Population: ________ People

Nearest Designated Wellhead Protection Area:
- ☐ Underlies Site
- ☐ >0 - 4 Miles
- ☒ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - ¼ Mile	0
> ¼ - ½ Mile	0
> ½ - 1 Mile	0
> 1 - 2 Miles	0
> 2 - 3 Miles	0
> 3 - 4 Miles	0
Total Within 4 Miles	0

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):
☐ Stream ☒ River ☐ Pond ☐ Lake ☐ Bay ☐ Ocean ☒ Other storm sewer

Shortest Overland Distance From Any Source to Surface Water:
________ Feet
2 Miles

Is There a Suspected Release to Surface Water:
- ☐ Yes
- ☒ No

Site is Located in:
- ☐ Annual - 10 yr Floodplain
- ☐ > 10 yr - 100 yr Floodplain
- ☐ > 100 yr - 500 yr Floodplain
- ☒ > 500 yr Floodplain

Drinking Water Intakes Located Along the Surface Water Migration Path:
- ☐ Yes
- ☒ No

Have Primary Target Drinking Water Intakes Been Identified:
- ☐ Yes
- ☒ No

If Yes, Enter Population Served by Primary Target Intakes: 0 People

List All Secondary Target Drinking Water Intakes:

Name	Water Body	Flow (cfs)	Population Served

Total within 15 Miles: 0

Fisheries Located Along the Surface Water Migration Path:
- ☒ Yes
- ☐ No

Have Primary Target Fisheries Been Identified:
- Yes
- ☒ No

List All Secondary Target Fisheries:

Water Body/Fishery Name	Flow (cfs)
Mississippi River	151,000

EPA Potential Hazardous Waste Site Preliminary Assessment Form - Page 4 of 4

CERCLIS Number: MOD000832601

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:
- [x] Yes
- [ ] No

Have Primary Target Wetlands Been Identified:
- [ ] Yes
- [x] No

List Secondary Target Wetlands:

Water Body	Flow (cfs)	Frontage Miles
Mississippi River	151,000	8 miles (estimated)

Other Sensitive Environments Located Along the Surface Water Migration Path:
- [x] Yes
- [ ] No

Have Primary Target Sensitive Environments Been Identified:
- [ ] Yes
- [x] No

List Secondary Target Sensitive Environments:

Water Body	Flow (cfs)	Sensitive Environment Type
Mississippi River	151,000	Bald Eagle Pallid Sturgeon

9. Soil Exposure Pathway

Are People Occupying Residences or Attending School or Daycare on or Within 200 Feet of Areas of Known or Suspected Contamination:
- [x] Yes
- [ ] No

If Yes, Enter Total Resident Population: est. 115 People

Number of Workers Onsite:
- [ ] None
- [x] 1 - 100
- [ ] 101 - 1,000
- [ ] >1,000

Have Terrestrial Sensitive Environments Been Identified on or Within 200 Feet of Areas of Known or Suspected Contamination:
- [ ] Yes
- [x] No

If Yes, List Each Terrestrial Sensitive Environment:

Peregrine Falcon (3 miles)

Scott Joplin State Historical Site (1. miles)

10. Air Pathway

Is There a Suspected Release to Air:
- [x] Yes
- [ ] No

Enter Total Population on or Within:

Onsite	25
0 - ¼ Mile	115
>¼ - ½ Mile	7720
>½ - 1 Mile	21,068
>1 - 2 Miles	64,163
>2 - 3 Miles	59,316
>3 - 4 Miles	93,847
Total Within 4 Miles	246,229

Wetlands Located Within 4 Miles of the Site:
- [x] Yes
- [ ] No

Other Sensitive Environments Located Within 4 Miles of the Site:
- [x] Yes
- [ ] No

List All Sensitive Environments Within ½ Mile of the Site:

Distance	Sensitive Environment Type/Wetlands Area (acres)
Onsite	none
0 - ¼ Mile	none
>¼ - ½ Mile	none

ATTACHMENT A

ANALYTICAL SERVICES REQUEST FORM

ATTACHMENT B

TABLES 1-7, SUMMARY OF PAST ANALYTICAL DATA

Table 1

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF WASTE SAMPLE ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

EPA Sample Number	Sample location	PCB	Reference Number
RZ3JJ066	Tank sump (liquid)	61 µg/L	4
RZ3JJ068	55-gallon drum	55 mg/kg	4
RZ1JJ011	East drum under substation #4	620,000 mg/kg	3
RZ1JJ012	West drum under substation #4	640,000 mg/kg	3
		µg/kg	
GZ1JJ010	South diecasting room, concrete below substation #3	474,000	6
GZ1JJ011	South diecasting room, third equipment mounting pad	4,060,000	6
GZ1JJ012	Same location as 011 except concrete 1-2 inches	1,270,000	6
GZ1JJ013	Same location as 011 except concrete 2-3 inches	3,960	6
GZ1JJ014	North diecasting room, concrete, 1 inch depth	5,070,000	6
GZ1JJ015	North diecasting room, concrete, 1 inch depth	6,760,000	6
GZ1JJ018	Wood from roof trusses in south diecasting room	77,000	6
GZ1JJ019	Wood from roof trusses in south diecasting room	510,000	6
GZ1JJ020	Wood from roof trusses in north diecasting room	21,800	6
GZ1JJ021	Wood from roof trusses in north diecasting room	204,000	6
EPA Removal Concentration Action Level	40 CFR 761.60 for Solid Substances	50 mg/kg	

References:

3 Ecology and Environment, Inc., 1994, February 23, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9310-027B, Kansas City, Kansas.

4 Ecology and Environment, Inc., 1994, June 30, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9403-001, Kansas City, Kansas.

6 Ecology and Environment, Inc., 1995, September 7, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9505-009, Kansas City, Kansas.

Key:

CFR = Code of Federal Regulations.
EPA = U.S. Environmental Protection Agency.
µg/kg = micrograms per kilogram, same as parts per billion (ppb).
PCB = polychlorinated biphenyl.
— = Not available.
Shaded box = Concentration exceeded removal action levels.

Table 2

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF WIPE SAMPLE ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

EPA Sample Number	Sample Location	PCB ($\mu g/cm^2$)	Reference Number
RZ3JJ011	Wood crates, Wilco's Plastic Shop	0.004 U	4
RZ3JJ012	South corridor, Wilco's Plastic Shop floor	0.004 U	4
RZ3JJ013	West corridor of Wilco's Plastic Shop	0.004 U	4
RZ3JJ014	North wall of Wilco's Plastic Shop	0.004 U	4
RZ3JJ015	Overhead lights of Wilco's Plastic Shop	0.004 U	4
RZ3JJ016	Floor of Wilco's Plastic Shop	0.027	4
RZ3JJ017	Wilco's Plastic Shop desks	0.024	4
RZ3JJ018	Floor in southwest corner of Mac's Auto Shop	0.034	4
RZ3JJ019	East room Mac's Auto Shop floor	0.085	4
RZ3JJ020	Mac's Auto Shop east wall	0.004 U	4
RZ3JJ021	Mac's Auto Shop shelves and desk	0.025	4
RZ3JJ022	Floor near George Moore's office	0.17/0.24	4
RZ3JJ023	Driveway corridor inside near George Moore's office	0.20	4
RZ3JJ024	Driveway corridor inside near George Moore's office	0.14	4
RZ3JJ025	George Moore's office floor	0.039	4
RZ3JJ026	First floor tool cage Carter Building, Inc. (CBI)	0.47	4
RZ3JJ027	West storage room, first floor CBI	0.10	4
RZ3JJ028	North-south corridor east side of first floor CBI	0.64	4
RZ3JJ029	North-south corridor west side of first floor CBI	0.69	4
RZ3JJ030	East-west corridor of first floor CBI	0.46	4
RZ3JJ031	North of north-south corridor of second floor CBI	0.30	4
RZ3JJ032	South of north-south corridor second floor CBI	0.043	4
RZ3JJ033	South concourse second floor CBI	0.25	4
RZ3JJ034	North concourse second floor CBI	0.028	4
EPA Removal Concentration Action Levels	40 CFR 761.125 Solid Surface High Contact Area	10 $\mu g/100\ cm^2$	

Key at end of table.

Table 2

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF WIPE SAMPLE ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

EPA Sample Number	Sample Location	PCB ($\mu g/cm^2$)	Reference Number
RZ3JJ035	East side of floor, third floor CBI	0.12	4
RZ3JJ036	East side of floor, third floor CBI	0.21	4
RZ3JJ037	South concourse, third floor CBI	0.40	4
RZ3JJ038	North concourse, third floor CBI	0.99	4
RZ3JJ039	South rooms, fourth floor CBI	0.097	4
RZ3JJ040	Main room, fourth floor CBI	0.004 U	4
RZ3JJ041	Locker room, fourth floor CBI	0.025	4
RZ3JJ044	Floor, fourth floor CBI	0.099	4
RZ3JJ045	Shelves and desk in Wilco's Plastic Shop	0.0052	4
RZ3JJ047	Stairway adjacent to Metal Fab Shop	4.9	4
RZ3JJ048	North-south corridor in Metal Fab Shop	0.1	4
RZ3JJ049	Central floor in Metal Fab Shop	0.15	4
RZ3JJ050	East-west corridor Metal Fab Shop	0.13	4
RZ3JJ051	Office area of Metal Fab Shop	0.013	4
RZ3JJ052	East-west corridor in CBI warehouse	0.18	4
RZ3JJ053	North-south corridor in south-central CBI	13.0	4
RZ3JJ054	North-south corridor east end of CBI	4.7	4
RZ3JJ056	Field blank	0.004 U	4
RZ3JJ057	Coffee room	0.027	4
RZ3JJ058	Metal Fab Shop	0.311	4
RZ3JJ059	Floor under stairs east of pump room	2.5	4
RZ3JJ060	LRA building first floor	0.15	4
RZ3JJ061	LRA building first floor	0.60	4
RZ3JJ062	Near 32-gallon transformer on first floor	1,200	4
EPA Removal Concentration Action Levels	40 CFR 761.125 Solid Surface High Contact Area	10 $\mu g/100\ cm^2$	

Key at end of table.

Table 2

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF WIPE SAMPLE ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

EPA Sample Number	Sample Location	PCB ($\mu g/cm^2$)	Reference Number
RZ3JJ064	Field blank	0.004 U	4
RZ3JJ065	North diecasting room	240	4
RZ3JJ069	Walkway of loading dock south of CBI	2.1	4
RZ1JJ005	East of concrete removal area	7.2	3
RZ1JJ005D	East of concrete removal area	3.2	3
RZ1JJ006	Pump room entrance	4.3	3
RZ1JJ007	Pump room east end	0.23	3
RZ1JJ008	Field blank	0.073 U	3
RZ1JJ009	Outside south wall of pump room breezeway	1.6	3
RZ1JJ010	Near doorway to LRA property in CBI building	32	3
RZ1JJ013	Substation #4 runoff area	2,000	3
RZ1JJ014	Walls under substation #3	4,100	3
RZ1JJ015	Transformer surface of substation #3	1,400	3
RZ2JJ002	Transformer surface of substation #3	960	3
RZ2JJ003	Equipment surfaces south diecasting room	0.59	3
RZ2JJ001	Floor outside south wall of pump room	1.6	3
GZ1JJ001	Inside blower vent in north diecasting room	16.8	6
GZ1JJ002	North diecasting room from pipe at catwalk	4.44	6
GZ1JJ003	South diecasting room second overhead vent	0.544	6
GZ1JJ004	South diecasting room overhead steel I-beam	3.66	6
GZ1JJ005	Concrete core drill bit decon (post)	0.020 K	6
EPA Removal Concentration Action Levels	40 CFR 761.125 Solid Surface High Contact Area	10 $\mu g/100\ cm^2$	

Key at end of table.

Table 2 (Cont.)

References:

3 Ecology and Environment. Inc., 1994, February 23, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri. EPA Region VII Technical Assistance Team. TDD T07-9310-027B, Kansas City, Kansas.

4 Ecology and Environment, Inc., 1994, June 30, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri. EPA Region VII Technical Assistance Team, TDD T07-9403-001, Kansas City, Kansas.

6 Ecology and Environment. Inc., 1995, September 7, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri. EPA Region VII Technical Assistance Team. TDD T07-9505-009. Kansas City, Kansas.

Key:

CFR	=	Code of Federal Regulations.
EPA	=	U.S. Environmental Protection Agency.
K	=	Actual value of sample is less than the value reported.
μg/kg	=	micrograms per kilogram, same as parts per billion (ppb).
PCB	=	polychlorinated biphenyl.
U	=	Actual value of sample is less than the measurement detection limit (reported value).
—	=	Not available.
Shaded box	=	Concentration exceeded removal action levels

Table 3

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF WIPE SAMPLE ANALYTICAL DATA
TDD: T07-9510-511/PAN: EMO1034SFA

Contaminant	EPA Sample Number	GZ1JJ047	GZ1JJ048	GZ1JJ049	GZ1JJ050	GZ1JJ051
	Sample Location	South diecasting room, vent pipe dust	North diecasting room, floor dust	Dust from CBI building	Dust from Marion Tow's Metal Fabrication Shop	Dust from CBI building
Tetrachlorodibenzo-P 2,3,7,8-Dioxin (ng/gm)		0.0217 U	0.043	0.0158	0.0102 U	0.0149
Pentachlorodibenzo Furan 1,2,3,7,8- (ng/kg)		120	1,250	250	51.0 U	66.4
Hexachlorodibenzo Furan 1,2,3,4,7,8- (ng/kg)		168	6,360	1,800	76	880
Hexachlorodibenzo Furan 1,2,3,6,7,8- (ng/kg)		109 U	1,390	370	51.0 U	182
Hexachlorodibenzo Furan 1,2,3,7,8,9- (ng/kg)		109 U	112	51.5 U	51.0 U	56.8 U
Hexachlorodibenzo Furan 2,3,4,6,7,8- (ng/kg)		109 U	597	167	51.0 U	119
Heptachlorodibenzo Furan 1,2,3,4,6,7,8- (ng/kg)		163	4,210	1,750	426	1,240
Hexachlorodibenzo-P Dioxin 1,2,3,6,7,8- (ng/kg)		109 U	116	84.2	51.0 U	86.7
Hexachlorodibenzo-P Dioxin 1,2,3,4,7,8- (ng/kg)		109 U	105 U	51.5 U	51.0 U	56.8 U
Heptachlorodibenzo-P Dioxin 1,2,3,4,6,7,8- (ng/kg)		283	1,500	1,670	254	2,380
Hexachlorodibenzo-P Dioxin 1,2,3,7,8,9- (ng/kg)		109 U	105 U	60.3	51.0 U	90.7
Pentachlorodibenzo Furan 2,3,4,7,8- (ng/kg)		201	5,080	1,320	80.1	209
Octachlorodibenzo-P Dioxin (ng/kg)		2,630	15,500	15,800	2,030	26,800
Tetrachlorodibenzo Furan 2,3,7,8- (ng/kg)		581	3,250	598	73.0	222
Octachlorodibenzo Furan (ng/kg)		283	12,100	4,970	356	3,370

Key at end of table.

Table 3

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF WIPE SAMPLE ANALYTICAL DATA
TDD: T07-9510-511/PAN: EMO1034SFA

Contaminant	EPA Sample Number / Sample Location	GZ1JJ047	GZ1JJ048	GZ1JJ049	GZ1JJ050	GZ1JJ051
	Sample Location	South diecasting room, vent pipe dust	North diecasting room, floor dust	Dust from CBI building	Dust from Marion Tow's Metal Fabrication Shop	Dust from CBI building
Heptachlorodibenzo Furan 1,2,3,4,7,8,9- (ng/kg)		109 U	1,760	560	51.0 U	327
Pentachlorodibenzo-P Dioxin 1,2,3,7,8- (ng/kg)		109 U	109 U	51.5 U	51.0 U	56.8 U
TCD Total Equivalents 2,3,7,8- (μg/kg)		0.188	3.93	1.06	0.0641	0.350
Reference Number		3	3	3	3	3

References:

4 Ecology and Environment, Inc., 1994, June 30, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9403-001, Kansas City, Kansas.

Key:

EPA = U.S. Environmental Protection Agency.
K = Actual value of sample is less than the value reported.
μg/kg = micrograms per kilogram, same as parts per billion (ppb).
PCB = polychlorinated biphenyl.
U = Actual value of sample is less than the measurement detection limit (reported value).

Key at end of table.

Table 4

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF AIR SAMPLE ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

EPA Sample Number	PS-1 Air Sample location	PCB (ug/m^3)	Reference Number
RZ3JJ001	Inside near George Moores office	0.052	4
RZ3JJ002	Inside near Mac's auto repair shop	0.018	4
RZ3JJ003	Second floor, in Wilco's Plastic Shop	0.11	4
RZ3JJ004	Rear of metal fabrication shop	0.060	4
RZ3JJ010	Field blank	0.0025 U	4
Health-Based Benchmarks	EPA Reference Dose Screening Concentration	—	
	EPA Cancer Risk Screening Concentration	—	
Federal Action Levels	NIOSH	0.001 mg/m^3	
	OSHA	1 mg/m^3	

References:

4 Ecology and Environment, Inc., 1994, June 30, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9403-001, Kansas City, Kansas.

Key:

CFR = Code of Federal Regulations.
EPA = U.S. Environmental Protection Agency.
mg/kg = milligrams per kilogram, same as parts per million (ppm).
µg/kg = micrograms per kilogram, same as parts per billion (ppb).
PCB = polychlorinated biphenyl.
— = Not Available.
OSHA = Occupational Safety and Health Administration.
NIOSH = National Institute of Occupational Safety and Health.
Shaded box = Concentration exceeded the action levels.

Table 5

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF SURFACE AND SUBSURFACE SOIL AND SEDIMENT ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

Contaminant	EPA Sample Number	GZ1JJ032	GZ1JJ033	GZ1JJ034	Health-Based Bench Marks		EPA Removal Concentration Action Levels For Surface Soils	
	Sample Location	12-18 inches below asphalt near substation #4	Background sample, from lot at NW corner of Spring & Dodier, 0-2 inches depth	Background sample, from lot at NW corner of Spring & Dodier, 6-18 inches depth	EPA Reference Dose Screening Concentration (mg/kg)	EPA Cancer Risk Screening Concentration (mg/kg)	EPA Proposed RCRA Soil Action Level (mg/kg)	EPA Region 7 500 ppm Residential 1,000 ppm Industrial OSWER Directive 9355.4-02
Aluminum (mg/kg)		—	8,660	8,710	—	—	—	NA
Antimony (mg/kg)		—	11.3 U	12.7 U	230	—	30**	NA
Arsenic (mg/kg)		—	15.8	4.76	170	.33	80**	NA
Barium (mg/kg)		—	1,940	243	41,000	—	4,100	NA
Beryllium (mg/kg)		—	1.13 U	1.27 U	2,900	.14	0.2	NA
Cadmium (mg/kg)		—	12.8	3.32	290	—	40	NA
Chromium (mg/kg)		—	39.3	13.3	2,900	—	400	NA
Cobalt (mg/kg)		—	12.5	8.59	—	—	—	NA
Copper (mg/kg)		—	162	18.7	—	—	—	NA
Iron (mg/kg)		—	39,200	15,200	—	—	—	NA
Lead (mg/kg)		—	Invalid	220	—	—	—	500 ppm 1,000 ppm
Magnesium (mg/kg)		—	4,440	1,650	—	—	—	NA

Key at end of table.

Table 5

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF SURFACE AND SUBSURFACE SOIL AND SEDIMENT ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

	EPA Sample Number	GZ1JJ032	GZ1JJ033	GZ1JJ034	Health-Based Bench Marks		EPA Removal Concentration Action Levels For Surface Soils	
Contaminant	Sample Location	12-18 inches below asphalt near substation #4	Background sample, from lot at NW corner of Spring & Dodier, 0-2 inches depth	Background sample, from lot at NW corner of Spring & Dodier, 6-18 inches depth	EPA Reference Dose Screening Concentration (mg/kg)	EPA Cancer Risk Screening Concentration (mg/kg)	EPA Proposed RCRA Soil Action Level (mg/kg)	EPA Region 7 500 ppm Residential 1,000 ppm Industrial OSWER Directive 9355.4-02
Manganese (mg/kg)		—	735	1,020	2,900	—	—	NA
Nickel (mg/kg)		—	28.2	18.7	12,000	—	2,000	NA
Selenium (mg\kg)		—	1.13 U	1.29 U	2,900	—	—	NA
Silver (mg/kg)		—	2.27 U	2.53 U	2,900	—	200	NA
Sodium (mg/kg)		—	235	165	—	—	—	NA
Thallium (mg/kg)		—	1.13 U	1.29 U	—	—	—	NA
Vanadium (mg/kg)		—	37.7	26.2	4,100	—	—	NA
Zinc (mg/kg)		—	2,020	114	170,000	—	—	NA
Molybdenum (mg/kg)		—	7.27	2.53 U	—	—	—	NA
Calcium (mg/kg)		—	32,200	3,350	—	—	—	NA
Potassium (mg/kg)		—	971	1,210	—	—	—	NA
Cyanide (mg/kg)		—	—	—	12,000	—	2,000	NA
PCB (µg/kg)		52,000	176	77 K	—	0.076	0.9	NA

Key at end of table.

Table 5

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF SURFACE AND SUBSURFACE SOIL AND SEDIMENT ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

Contaminant	EPA Sample Number	GZ1JJ032	GZ1JJ033	GZ1JJ034	Health-Based Bench Marks		EPA Removal Concentration Action Levels For Surface Soils	
	Sample Location	12-18 inches below asphalt near substation #4	Background sample, from lot at NW corner of Spring & Dodier, 0-2 inches depth	Background sample, from lot at NW corner of Spring & Dodier, 6-18 inches depth	EPA Reference Dose Screening Concentration (mg/kg)	EPA Cancer Risk Screening Concentration (mg/kg)	EPA Proposed RCRA Soil *Action Level* (mg/kg)	EPA Region 7 500 ppm Residential 1,000 ppm Industrial OSWER Directive 9355.4-02
Titanium (mg/kg)		—	480	341	—	—	—	NA
Reference Number		5	5	5	—	—	—	NA

** Proposed

References:

6 Ecology and Environment, Inc., 1995, September 7, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9505-009, Kansas City, Kansas.

Key:

CFR = Code of Federal Regulations.
EPA = U.S. Environmental Protection Agency.
K = Actual value of sample is less than the value reported.
mg/kg = milligrams per kilogram, same as parts per million (ppm).
μg/kg = micrograms per kilogram, same as aprts per billion (ppb).
PCB = polychlorinated biphenyl.
U = Actual value of sample is less than the measurement detection limit (reported value).
— = Not available.
NA = Not applicable.
Shaded box = Concentration exceeded benchmarks.

Table 6

**CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF WATER ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA**

EPA Sample Number	Sample location	Phenol (ppm)	Total Chromium (ppm)	Copper (ppm)	Lead (ppm)	Nickel (ppm)	Zinc (ppm)	Cyanide (ppm)	PCB (µg/L)	Reference Number
1-8	#1 Manhole	0.02	0.00	0.55	0.61	0.00	1.70	0.00	—	11
2-8	#2 Manhole	0.10	0.00	0.28	0.72	0.00	0.88	0.00	—	11
3-8	#3 Manhole	0.00	0.00	0.57	0.60	0.00	0.88	0.00	—	11
4-8	#4 Manhole	0.03	0.00	0.77	0.70	0.00	1.47	0.00	—	11
5-8	#5 Manhole	0.06	0.00	0.26	0.00	0.00	2.0	0.00	—	11
6-8	#6 Manhole	0.29	0.00	0.81	0.80	0.00	2.63	0.00	—	11
7-8	#7 Manhole	0.006	0.00	0.42	1.40	0.00	0.52	0.00	—	11
8-8	#8 Manhole	0.03	6.4	0.47	2.0	0.00	4.20	0.00	—	11
RZ1JJ004	Pooled on floor of CRT	—	—	—	—	—	—	—	230	3
GZ1JJ024	Decon water	—	—	—	—	—	—	—	88.0	6

References:

3 Ecology and Environment, Inc., 1994, February 23, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9310-027B, Kansas City, Kansas.

6 Ecology and Environment, Inc., 1995, September 7, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9505-009, Kansas City, Kansas.

11 St. Louis Metropolitan Sewer District's Industrial Waste Surcharge Questionnaire and Wastewater Analysis and Sampling Location, June 28, 1973. St. Louis, Missouri.

** Proposed MCL.

Key:

ppm = parts per million, same as micrograms per kilogram.
µg/L = micrograms per liter, same as ppb.
PCB = polychlorinated biphenyl.
-- = Not avaliable.

Table 7

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF SUBSURFACE SOIL, CONCRETE, DUST, AND SEDIMENT ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

EPA Sample Number	Sample location	Al (ppm)	Sb (ppm)	As (ppm)	Ba (ppm)	Be (ppm)	Cd (ppm)	Cr (ppm)	Co (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mg (ppm)	Mn (ppm)	Reference Number
RZ3JJ042	Dust, Wilco's Plastic Shop	5,810	777	14.8	171	1.39 U	23.2	387	24.2	963	93,700	2,070	1,730	578	4
RZ3JJ043	Dust, first floor CBI	36,900	12.7	51.3	119	1.39 U	18.3	572	33.1	2,460	178,000	1,170	18,000	1,050	4
RZ3JJ046	Dust, second floor CBI	11,300	14.4	13.6	35.6 U	1.39 U	40.6	437	35.4	12,000	122,000	2,170	6,800	643	4
RZ3JJ055	Dust, CBI warehouse	12,900	16.7	21.0	476	1.39 U	29.4	412	37.3	5,110	197,000	3,840	5,540	1,150	4
RZ3JJ063	From under mounting pads in the diecasting room	24,900	6.16	5.87	342	1.39 U	20.7	39.3	6.64 U	1,370	33,100	372	1,630	197	4
RZ3JJ067	Parking lot soil LRA north lot	—	—	—	—	—	—	—	—	—	—	—	—	—	4
RZ1JJ001	Concrete removal area	—	—	—	—	—	—	—	—	—	—	—	—	—	3
RZ1JJ002	Floor drain sediment	—	—	—	—	—	—	—	—	—	—	—	—	—	3
RZ1JJ003	Outside under substation #4 platform	—	—	—	—	—	—	—	—	—	—	—	—	—	3
RZ2JJ004	Dust, south diecasting room	23,000	12.6	25.4	489	0.640	40	150	12.5	886	58,300	889	3,950	410	3
RZ2JJ005	Dust, north diecasting room	28,000	7.32	22.9	468	0.610	38	158	11.1	911	50,500	806	2,150	29,000	3
GZ1JJ016	3-12 inches below concrete of core #3	—	—	—	—	—	—	—	—	—	—	—	—	—	6
GZ1JJ017	4-12 inches below concrete at core #2	13,300	12.5 U	9.04	182	1.25 U	1.25 U	17.0	8.62	18.7	22,000	18.5	2,500	485	6
GZ1JJ025	6-12 inches below asphalt at UST area	2,240	10.5 U	1.62	16.4	1.05 U	1.05 U	6.76	2.36	6.97	3,110	11.0	21,600	62.4	6
GZ1JJ026	4-6 feet below asphalt at UST area	—	—	—	—	—	—	—	—	—	—	—	—	—	6

Key at end of table.

Table 7

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF SUBSURFACE SOIL, CONCRETE, DUST, AND SEDIMENT ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

EPA Sample Number	Sample location	Al (ppm)	Sb (ppm)	As (ppm)	Ba (ppm)	Be (ppm)	Cd (ppm)	Cr (ppm)	Co (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mg (ppm)	Mn (ppm)	Reference Number
GZ1JJ027	10-12 feet below asphalt UST area	—	—	—	—	—	—	—	—	—	—	—	—	—	6
GZ1JJ028	6-12 inches below asphalt at UST area	—	—	—	—	—	—	—	—	—	—	—	—	—	6
GZ1JJ029	4-6 feet below asphalt UST area north	—	—	—	—	—	—	—	—	—	—	—	—	—	6
GZ1JJ030	North lot surface sediment	—	—	—	—	—	—	—	—	—	—	—	—	—	6
GZ1JJ031	6-12 inches below asphalt at substation #4	9,780	11.3 U	5.69	142	1.13 U	3.48	12.8	7.77	18.3	15,900	89	3,670	644	6

Key at end of table

Table 7

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF SUBSURFACE SOIL, CONCRETE, DUST, AND SEDIMENT ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

EPA Sample Number	Sample location	Ni (ppm)	Se (ppm)	Ag (ppm)	Na (ppm)	Tl (ppm)	V (ppm)	Zn (ppm)	Mo (ppm)	Ca (ppm)	K (ppm)	CN (ppm)	PCB (ppb)	Ti (ppm)
RZ3JJ042	Dust, Wilco's Plastic Shop	38.2	3.62 U	6.15 U	2,660	31.5 U	30.5 U	2,880	6.37	12,100	970	1.73	—	—
RZ3JJ043	Dust, first floor CBI	185	3.62 U	6.15 U	1,380	31.5 U	30.5 U	8,510	6.65	18,800	476	1.9	78,000	—
RZ3JJ046	Dust, second floor CBI	24.0	3.62 U	6.15 U	7,720	31.5 U	30.5 U	8,600	3.93 U	65,900	683	0.156	8,900	—
RZ3JJ055	Dust, CBI warehouse	133	3.62 U	7.84	1,440	31.5 U	30.5 U	22,200	52.1	27,500	887	50.5	1,500,000	—
RZ3JJ063	From under mounting pads in diecasting room	23.6	3.62 U	6.15 U	885	31.5 U	30.5 U	6,940	15.6	15,800	894	0.348	3,300,000	—
RZ3JJ067	Parking lot soil LRA north lot	—	—	—	—	—	—	—	—	—	—	—	1,600,000	—
RZ1JJ001	Concrete removal area	—	—	—	—	—	—	—	—	—	—	—	29,000	—
RZ1JJ002	Floor drain sediment	—	—	—	—	—	—	—	—	—	—	—	4,800,000	—
RZ1JJ003	Outside under substation #4 platform	—	—	—	—	—	—	—	—	—	—	—	180,000,000	—
RZ2JJ004	Dust, south diecasting room	33.9	0.22	3.31	1,980	6.0 U	25.5	6,140	—	22,300	1,430	11.1	1,500,000	—
RZ2JJ005	Dust, north diecasting room	35.9	0.22	9.73	1,010	6.0 U	21.6	8,140	—	30,100	1,110	1.02	7,200,000	—
GZ1JJ016	3-12 inches below concrete of core #2	—	—	—	—	—	—	—	—	—	—	—	123	—
GZ1JJ017	4-12 inches below concrete at core #2	20.1	1.25 U	2.49 U	78.9	1.25 U	33.6	62.1	2.49 U	3,460	1,230	—	85.9 K	274
GZ1JJ025	6-12 inches below asphalt at UST area	6.19	1.07 U	2.09 U	200	1.07 U	8.35	58.4	2.09 U	208,000	939	—	392	10.6
GZ1JJ026	4-6 feet below asphalt at UST area	—	—	—	—	—	—	—	—	—	—	—	35.8	—
GZ1JJ027	10-12 feet below asphalt UST area	—	—	—	—	—	—	—	—	—	—	—	84.8 K	—

Key at end of table.

Table 7

CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
SUMMARY OF SUBSURFACE SOIL, CONCRETE, DUST, AND SEDIMENT ANALYTICAL DATA
TDD: T07-9510-511A/PAN: EMO1034SFA

EPA Sample Number	Sample location	Ni (ppm)	Se (ppm)	Ag (ppm)	Na (ppm)	Tl (ppm)	V (ppm)	Zn (ppm)	Mo (ppm)	Ca (ppm)	K (ppm)	CN (ppm)	PCB (ppb)	Ti (ppm)
GZ1JJ028	6-12 inches below asphalt at UST area	—	—	—	—	—	—	—	—	—	—	—	2,210	—
GZ1JJ029	4-6 feet below asphalt UST area north	—	—	—	—	—	—	—	—	—	—	—	77 K	—
GZ1JJ030	North lot surface sediment	—	—	—	—	—	—	—	—	—	—	—	415,000	—
GZ1JJ031	6-12 inches below asphalt at substation #4	14.6	1.14 U	2.26 U	81.4	1.14 U	27.1	103	2.26 U	29,400	1,260	—	7,550,000	276

Key at end of table.

ATTACHMENT C

TABLE 8, PROPOSED INTEGRATED SI SAMPLES

Table 7 (cont.)

References:

3 Ecology and Environment, Inc., 1994, February 23, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9310-027B, Kansas City, Kansas.

4 Ecology and Environment, Inc., 1994, June 30, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9403-001, Kansas City, Kansas.

6 Ecology and Environment, Inc., 1995, September 7, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9505-009, Kansas City, Kansas.

Key:

ppm = parts per million, same as milligrams per kilogram.
PCB = polychlorinated biphenyl.
— = Not available.

Tal `-1
CARTER CARLURETOR SITE
ST. LOUIS, MISSOURI
LABORATORY ANALYTICAL SAMPLE SUMMARY
TDD: T07-9510-511A/PAN: EMO1034SFA

Sample Number	Media	Location	Depth (feet BGS)	Analysis	Property Owner
	Water	Ground Water Equipment Rinsate	N/A	metals, VOCs, semiVOCs, PCBs	N/A
	Sediment	Bissel Point Wastewater Treatment Plant	Settling Tank	PCBs	BPWTP
	Drinking Water	On-site Drinking Water	N/A	metals, VOCs, semiVOCs,, PCBs	
	Drinking Water	Drinking Water at Site Perimeter	N/A	metals, VOCs, semiVOCs,, PCBs	
	Drinking Water	Drinking Water at Site Perimeter	N/A	metals, VOCs, semiVOCs,, PCBs	
	Drinking Water	Drinking Water at Site Perimeter	N/A	metals, VOCs, semiVOCs,, PCBs	
D	Drinking Water	Drinking Water Duplicate	N/A	metals, VOCs, semiVOCs,, PCBs	
F	Drinking Water	Drinking Water Field Blank	N/A	metals, VOCs, semiVOCs, PCBs	
T	Drinking Water	Drinking Water Trip Blank	N/A	metals, VOCs, semiVOCs, PCBs	
	Sediment	Manhole Northeast Corner of Site	N/A	metals, VOCs, semiVOCs, PCBs	
	Sediment	Manhole Southeast Corner of Site	N/A	metals, VOCs, semiVOCs, PCBs	
	Sediment	Manhole Southwest Corner of Site	N/A	metals, VOCs, semiVOCs, PCBs	
	Sediment	Manhole Northwest Corner of Site	N/A	metals, VOCs, semiVOCs, PCBs	
D	Sediment	Manhole Sediment Duplicate	N/A	metals, VOCs, semiVOCs, PCBs	
	Water	Sump/Trench	N/A	metals, VOCs, semiVOCs, PCBs	
	Water	Sump/Trench	N/A	metals, VOCs, semiVOCs, PCBs	
D	Water	Sump/Trench Duplicate	N/A	metals, VOCs, semiVOCs, PCBs	
	Sediment	Sump/Trench	N/A	metals, VOCs, semiVOCs, PCBs	
	Sediment	Sump/Trench	N/A	metals, VOCs, semiVOCs, PCBs	
D	Sediment	Sump/Trench Duplicate	N/A	metals, VOCs, semiVOCs, PCBs	
	Drum Waste	Unknown 55-gallon Drum	N/A	metals, VOCs, semiVOCs, PCBs	
	Drum Waste	Unknown 55-gallon Drum	N/A	metals, VOCs, semiVOCs, PCBs	

Tal -1
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
LABORATORY ANALYTICAL SAMPLE SUMMARY
TDD: T07-9510-511A/PAN: EMO1034SFA

Sample Number	Media	Location	Depth (feet BGS)	Analysis	Property Owner
	Soil	Background Surface Soil # 1	0 to 2 feet	metals, VOCs, semiVOCs, PCBs	
	Soil	Background Surface Soil # 2	0 to 2 feet	metals, VOCs, semiVOCs, PCBs	
	Soil	Surface Soil from Nearby Property	0 to 2 feet	metals, VOCs, semiVOCs, PCBs	
	Soil	Surface Soil from Nearby Property	0 to 2 feet	metals, VOCs, semiVOCs, PCBs	
D	Soil	Surface Soil Duplicate from Nearby Property	0 to 2 feet	metals, VOCs, semiVOCs, PCBs	
	Water	Surface Soil Equipment Rinsate (auger)	NA	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil Profile	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil Profile	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil Profile	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil	to be determined	metals, VOCs, semiVOCs, PCBs	
D	Soil	Subsurface Soil Duplicate	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil Background Profile	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil Background Profile	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil Background Profile	to be determined	metals, VOCs, semiVOCs, PCBs	
	Soil	Subsurface Soil Equipment Rinsate	N/A	metals, VOCs, semiVOCs, PCBs	
	Ground Water	On-site Ground Water	to be determined	metals, VOCs, semiVOCs, PCBs	
	Ground Water	On-site Ground Water	to be determined	metals, VOCs, semiVOCs, PCBs	
	Ground Water	On-site Ground Water	to be determined	metals, VOCs, semiVOCs, PCBs	
	Ground Water	Ground Water Duplicate	to be determined	metals, VOCs, semiVOCs, PCBs	N/A
	Ground Water	Ground Water Background	to be determined	metals, VOCs, semiVOCs, PCBs	
	Ground Water	Ground Water Background	to be determined	metals, VOCs, semiVOCs, PCBs	

Table 9-2
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI
FIELD SAMPLING WORK SHEET
TDD: T07-9510-511/PAN: EMO1034SFA

Sample Number	Media	Location	Depth (feet BGS)	Laboratory Analysis	Field Screening	
					PCBs	Head Space
	Soil	Background surface soil	0-2	metals, VOCs, semiVOCs, PCBs		
	Soil	Background surface soil	0-2	metals, VOCs, semiVOCs, PCBs		
	Soil	Surface soil north of the site	0-2	pick 2 samples and 1 duplicate for metals, VOCs, semiVOCs, and PCBs analysis		
	Soil	Surface soil north of the site	0-2			
	Soil	Surface soil east of the site	0-2			
	Soil	Surface soil east of the site	0-2			
	Soil	Surface soil south of the site	0-2			
	Soil	Surface soil south of the site	0-2			
	Soil	Surface soil west of the site	0-2			
	Soil	Surface soil west of the site	0-2			
	Soil	Surface soil towards primary wind direction (NE)	0-2			
	Soil	Surface soil towards primary wind direction (NE)	0-2			
	Soil	Surface soil towards primary wind direction (NE)	0-2			
	Soil	Surface soil towards primary wind direction (NE)	0-2			
	Soil	Surface soil duplicate	0-2			
	Water	Surface soil equipment rinsate	N/A	metals, VOCs, semiVOCs, PCBs		

	Soil	Subsurface soil profile	TBD	metals, VOCs, semiVOCs, PCBs		
	Soil	Subsurface soil profile	TBD	metals, VOCs, semiVOCs, PCBs		
	Soil	Subsurface soil profile	TBD	metals, VOCs, semiVOCs, PCBs		
	Soil	Subsurface soil profile background	TBD	metals, VOCs, semiVOCs, PCBs		
	Soil	Subsurface soil profile background	TBD	metals, VOCs, semiVOCs, PCBs		
	Soil	Subsurface soil profile background	TBD	metals, VOCs, semiVOCs, PCBs		
	Soil	Subsurface soil	TBD	choose 7 plus 1 duplicate for metals, VOCs, semiVOCs, PCBs analysis		
	Soil	Subsurface soil	TBD			
	Soil	Subsurface soil	TBD			
	Soil	Subsurface soil	TBD			
	Soil	Subsurface soil	TBD			
	Soil	Subsurface soil	TBD			
	Soil	Subsurface soil	TBD			
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	Soil	Subsurface soil	TBD			
	Soil	Subsurface soil	TBD			
	Soil	Subsurface soil	TBD			
	Soil	Subsurface soil	TBD			
	Water	Subsurface soil equipment rinsate	N/A	metals, VOCs, semiVOCs, PCBs		
	Water	On-site ground water	TBD	metals, VOCs, semiVOcs, PCBs		
	Water	On-site ground water	TBD	metals, VOCs, semiVOcs, PCBs		
	Water	On-site ground water	TBD	metals, VOCs, semiVOcs, PCBs		
	Water	On-site ground water duplicate	TBD	metals, VOCs, semiVOcs, PCBs		
	Water	Ground water background	TBD	metals, VOCs, semiVOcs, PCBs		
	Water	Ground water background	TBD	metals, VOCs, semiVOcs, PCBs		
	Water	Ground water equipment rinsate	N/A	metals, VOCs, semiVOcs, PCBs		

	sediment	Bissel Point Wastewater Treatment Plant settling tank	N/A	PCBs		
	water	On-site drinking water	N/A	metals, VOCs, semiVOCs, PCBs		
	water	Drinking water at site perimeter	N/A	metals, VOCs, semiVOCs, PCBs		
	water	Drinking water at site perimeter	N/A	metals, VOCs, semiVOCs, PCBs		
	water	Drinking water at site perimeter	N/A	metals, VOCs, semiVOCs, PCBs		
	water	Drinking water duplicate	N/A	metals, VOCs, semiVOCs, PCBs		
	water	Drinking water field blank	N/A	metals, VOCs, semiVOCs, PCBs		
	water	Drinking water trip blank	N/A	metals, VOCs, semiVOCs, PCBs		
	sediment	Manhole northeast corner of site	N/A	Submit all manhole samples for metals, VOCs, semiVOCs, and PCBs analysis		
	sediment	Manhole southeast corner of site	N/A			
	sediment	Manhole southwest corner of site	N/A			
	sediment	Manhole northwest corner of site	N/A			
	sediment	Manhole sediment duplicate	N/A			
	water	Sump/trench	N/A	Pick 2 samples plus 1 duplicate for metals, VOCs, semiVOCs, PCBs analysis		
	water	Sump/trench	N/A			
	water	Sump/trench	N/A			
	water	Sump/trench	N/A			
	water	Sump/trench	N/A			

	water	Sump/trench	N/A			
	water	Sump/trench	N/A			
	water	Sump/trench	N/A			
	water	Sump/trench	N/A			
	water	Sump/trench	N/A			
	water	Sump/trench	N/A			
	sediment	Sump/trench	N/A	Pick 2 samples plus one duplicate for metals, VOCs, semi-VOCs, PCBs analysis		
	sediment	Sump/trench	N/A			
	sediment	Sump/trench	N/A			
	sediment	Sump/trench	N/A			
	sediment	Sump/trench	N/A			
	sediment	Sump/trench	N/A			
	sediment	Sump/trench	N/A			
	sediment	Sump/trench	N/A			
	sediment	Sump/trench	N/A			
	sediment	Sump/trench	N/A			
	sediment	Sump/trench	N/A			
	drum waste	Unknown 55-gallon drum	N/A	Pick 2 55-gallon drums for metals, VOCs, semiVOCs, and PCBs analysis		
	drum waste	Unknown 55-gallon drum	N/A			
	drum waste	Unknown 55-gallon drum	N/A			
	drum waste	Unknown 55-gallon drum	N/A			
	drum waste	Unknown 55-gallon drum	N/A			
	drum waste	Unknown 55-gallon drum	N/A			
	drum waste	Unknown 55-gallon drum	N/A			

	drum waste	Unknown 55-gallon drum	N/A		
	drum waste	Unknown 55-gallon drum	N/A		
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	drum waste	Unknown 55-gallon drum	N/A		
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	drum waste	Unknown 55-gallon drum	N/A		
	drum waste	Unknown 55-gallon drum	N/A		
	drum waste	Unknown 55-gallon drum	N/A		
	drum waste	Unknown 55-gallon drum	N/A		
	drum waste	Unknown 55-gallon drum	N/A		

TBD = To be determined in the field

MEMORANDUM

SUBJECT: Sampling Plan for the Integrated Assessment of the Carter Carburetor Site, St. Louis, Missouri

FROM: Douglas J. Brune
Environmental Engineer, ENSV

THRU: Ernest L. Arnold
Regional Quality Assurance Manager

TO: Betty Berry
SUPR

I reviewed the subject document, prepared by the Technical Assistance Team (TAT) contractor, Ecology and Environment (E&E), and dated November 28, 1995, according to Region 7 ENSV's Standard Operating Procedure (SOP) 1330.2, "Review of Quality Assurance Related Documents".

Attached please find Attachment A, "QA Document Review Checklist". Based on this completed checklist and the comments presented below, summarized as a result of our meeting with Steve Sanchez, E&E/TAT, on 12/5/95, I am recommending approval with comment. Attached please find the completed original signature page. A copy has been retained for R7QAMO records.

Project Objective

1. Key Personnel, §8.1, page 8-1. The four-member TAT team consists of a project and sample manager, a site safety officer and sampler, a Geoprobe operator and sampler, and a field chemist. Names and a brief statement of qualifications should be provided.

2. Analytical Techniques and Data Assessment Procedures, §7, page 7-1.

a) The authors request a QA Level 3, as defined in OSWER Directive 9360.4-01 (Quality Assurance/Quality Control Guidance for Removal Activities). This QA level calls for 100% verification of al field-screening samples. It appears QA Level 2 was intended.

b) The MCL listed for PCBs, i.e., 0.5 μg/L, is based on decachlorobiphenyl, and not a single or sum of the individual Aroclors.

Sampling Procedures

1. Sampling Activities, §4, page 4-1.

a) Past sampling has confirmed PCBs and metals contamination on site. The rationale for collecting samples for determinations of volatiles (VOCs) and semi-VOCs are not identified.

b) Table 8 and 9 provide a summary of all proposed samples to be collected. Table 9 could not be found. (This table will be provided by Steve Sanchez via telefax for use in defining samples in LAST.)

2. Pages 4-1--4-5. Sample containers should be employed as follows:

- non-aqueous samples: one 8-ounce glass jar each for metals, PCBs, and semi-VOCs, two 40-ml glass vials for VOCs; no chemical preservation.

- water samples: two 80-ounce glass jugs each for PCBs and semi-VOCs, cool 4°C; one 1-Liter cubitainer for metals, HNO_3 to pH < 2; two 40-ml glass vials for routine VOCs (four for LDL[1]), sodium thiosulfate for chlorinated water supplies, HCl to a pH < 2 1-Liter, and cool 4°C.

3. Soil Sampling, §4.2.

a) Pg. 4-2--4-3. TAT proposes to collect confirmatory samples based on PCBs and/or VOCs field-screening results. Each confirmatory sample will be analyzed for metals and semi-VOCs, as well as PCBS and VOCs. It should be understood that a positive PCBs or VOCs field-screening result will not guarantee an alternate positive VOCs or PCBs result, nor detection of metals and/or semi-VOCs.

Note: Per our discussion with Steve Sanchez, the field-screening samples are used to select samples for off-site analysis. The resulting data will not be used to confirm field-screening results. Therefore, tolerance limits are not necessary.

b) Page 4-2. TAT proposes to collect multiple depth intervals "for example" 3-5 feet, 8-10, 13-15, and 18-20 feet. It is understood that these are targeted depths, but cannot be guaranteed until actual field conditions are encountered.

4. Table 8. This table summarizes the number of analyses per matrix and source at the site. An accompanying site map would assist in identifying approximate sample locations.

Analytical Procedures

1. Analytical Techniques and Data Assessment Procedures, §7, page 7-1. The "WS" analytical request, i.e., semi-VOCs in water by GC/MS[2], will not provide detection below the level of concern, i.e., maximum contaminant levels (MCLs). Since semi-VOCs have not been documented on-site, this monitoring will only indicate "gross" contamination.

---

[1] Low Detection Limit

[2] Gas Chromatography/Mass Spectrometer

Field and Laboratory QC Samples

1. Quality Assurance and Quality Control Procedures, §6, page 6-1. Tolerance limits for the field duplicate samples should be established prior to the generation of environmental data in order to avoid subjective evaluation of the resulting data.

Note: As promised, here are the historical precision values for PCBs in soil, as identified in the QCSUM Report available on the LAN (F1, F3, Item 5).

PCB	Precision	QC Sample Used
1016	***	Insufficient Data
1221	***	Insufficient Data
1232	***	Insufficient Data
1242	171	Field Duplicates
1248	93.4	Field Duplicates
1254	46.2	Field Duplicates
1260	57.9	Field Duplicates

If you have any questions, please contact me at x5180.

Attachments

R7QAMO Activity Number: 96-QQ1JJ
R7QAMO Document Number: 96045

Attachment 2

QA Document Review Checklist

Project/Plan Name: Sampling Plan for the Integrated Site Assessment of the Carter Carburetor Site: St. Louis, Missouri

Activity Number: 96-QQ1JJ   Document Number: 96045

Deficiencies were found in the elements checked below:
(See the attached review report for comments)

1. Project Objective

__ Objective or scope of the data collection activity
__ Intended use of the data
__ Action level, required detection limits, data quality objectives
XXX Project participant/responsibility table; line authority diagram

2. Sampling Procedures

__ Sampling network and rationale
XXX Sampling schedule, locations, frequency, duration
__ Sample matrices, target analyte
__ Sampling/decontamination procedures
XXX Sample containers, preservation, holding times
__ Sample shipment/transportation, coordination with the laboratory
__ Sample custody and documentation of field activities

3. Analytical Methodology

__ Quality of written procedure or choice of reference.
XXX Method detection limit, precision, accuracy, comparability
__ Laboratory documentation

4. Field and Laboratory QC Samples

__ Field QC elements
__ Laboratory QC elements
__ Frequency of QC checks
XXX Control limits and corrective actions

5. Data Review, Validation and Reporting

__ Review process
__ Acceptance/rejection criteria for validation
__ Data deliverables

__ Approval Recommended
XXX Approval Recommended w/Comments
__ Resubmission Recommended

R7QAMO Reviewer: Douglas J. Brune
Completion Date: December 5, 1995

Ref. 5

ecology and environment, inc.
CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913/432-9961

International Specialists in the Environment

MEMORANDUM

TO: Roy Crossland, EPA/DPO

FROM: Joseph Davis, E & E/TATM

THRU: Joe Chandler, E & E/TATL

DATE: February 23, 1994

SUBJECT: Site Assessment: The former Carter Carburetor Manufacturing Facility, 2800 - 2840 N. Spring Street, St. Louis Missouri
TDD: T07-9310-0027B
PAN: EM01034SAA
EPA/OSC: Don Hamera

INTRODUCTION

The Ecology & Environment, Inc., Technical Assistance Team (TAT) was tasked by the United States Environmental Protection Agency (EPA) Emergency Planning and Response (EP&R) Branch to conduct a site reconnaissance and assessment at the former Carter Carburetor manufacturing facility located at 2800 to 2840 North Spring in St. Louis, Missouri. Site activity included the assessment and documentation of site conditions, the collection and management of samples, and interviews with property owners and other personnel associated with the site. A health and safety plan was produced prior to initiation of site work. Background information concerning this site was obtained from the EPA, the Missouri Department of Natural Resources (MDNR), the City of St. Louis, past and present property owners, and other individuals associated with the site. A summary report documenting all site activity was tasked for completion after the field work.

BACKGROUND

The former Carter Carburetor facility manufactured equipment for gasoline and diesel-powered engines dating back to the 1930's. Aluminum and zinc were die cast and machined into carburetor components. Those components were treated with protective coatings and assembled on site. Materials related to this manufacturing process may have included polymers and resins for coatings and metal-treating solutions containing cyanide, lead, cadmium, chromium, and other metals. Materials associated with the manufacturing process included coolants, cutting fluids, lubrication and hydraulic oils, dielectric fluids from transformers, and possibly asbestos.

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Carter Carburetor and Carter Automotive Products were subsidiaries of ACF Industries, Inc. ACF acquired the site property prior to 1930's. The previous owners are unknown. In the mid-1980's, ACF closed the facility and the equipment was dismantled and either shipped to new locations or sold. On April 26, 1985, the Land Reutilization Authority of St. Louis (LRA) accepted title of the property from ACF and on the same day sold the property to Hubert R. Thompson. Thompson was informed by the LRA that there was electrical equipment on site that contained polychlorinated biphenyls (PCBs). On October 29, 1991, the site was sold to George Moore, president of Carter Building Inc. (CBI), after Thompson defaulted on the property loan. Currently, CBI owns the west half of the facility and the St. Louis LRA owns the northeastern portion of the facility. The irregularly shaped building does not have a southeast quadrant.

As part of the purchase agreement, Thompson was required to initiate actions to dispose of PCB-contaminated materials. Following Thompson's removal actions, verification studies were performed by Environmental Operations, Inc.; Environmental Science & Engineering, Inc.; and EPA personnel. These studies indicated that PCB contamination was still present on site and that further remediation was needed. A current site sketch plan is presented as Attachment A.

Areas within the CBI property suspected of high levels of contamination with PCBs include a vaulted pump room near the center of the building that contained pumps, old boilers, and other equipment. This room formerly housed electrical Substation # 1 and is a known area of PCB contamination. During a prior cleanup activity in this area initiated by Thompson, contractors removed PCB transformers and a PCB-contaminated concrete transformer pad. A floor drain near the northwest corner of the concrete removal area is also known from previous studies to be contaminated with PCBs. Based on the location of city sewers, it is thought that this drain is connected to a 12-inch sewer line flowing south along Spring street. At the east wall of the warehouse area is an interior drive-through door leading to the LRA property. Prior investigations have indicated that a PCB spill occurred just beyond the doorway below electrical Substation # 3, which is located on the roof of LRA property.

Areas within the LRA property suspected of high levels of PCB contamination include the area around and below the transformers at Substation # 3 located on the second floor roof of the LRA building where it abuts CBI property. As mentioned previously, prior studies have indicated that this substation has leaked PCB-contaminated fluid down the side of the wall onto the floor of LRA property. Another platform-mounted substation, Substation # 4, near the north east corner of the LRA building, was also known to be contaminated with PCBs. A floor plan of the former Carter Carburetor facility is presented as Attachment B.

SITE ACTIVITY

On November 16, 1993, TAT member (TATM) David Kinroth and the EPA On-Scene Coordinator (OSC) Don Hamera met on site with George Moore, president of CBI and owner of most of the building. Moore indicated that the northeast corner of the building is owned by LRA. The south end of the second floor is rented to a plastics company and the north end of the first floor is rented to a metal fabricating company. The facility was monitored with an MSA 261 O2/Explosimeter and a Miniram particle monitor during the tour of the building led by Moore. No readings above background level were noted. The OSC and TAT later toured the LRA's property accompanied by LRA site representative, Eric Klipsch. Apparent historical leaks and spills could be observed as stains and crust on and around abandoned equipment and at locations where equipment was previously mounted on the floor. Some materials appeared to be oily, while others were hard coatings. Dust and debris had accumulated on the floors.

The OSC and TAT collected a soil sample from the soil below the area were the concrete pad had been removed at Substation # 1. A surface wipe sample was collected from the floor just east of the concrete-removal area. A collocated wipe sample was taken adjacent to this location. The OSC and TAT collected a sediment sample from the floor drain located just northwest of the concrete removal area. TAT collected a wipe sample from the south steps leading into the pump room and a wipe sample was collected from equipment surfaces in the east end of the pump room. A wipe sample was also collected just outside of the pump room in a breezeway along the south outside wall of the pump room. This area appears to have been a high traffic area leading into the pump room. A water sample was collected from a pool of water on the floor near the door leading into the LRA property and a wipe sample was also collected from the surface of the floor near the base of this door. See the site sketch (Attachment A) for locations of all samples.

Within the LRA property, a wipe sample was taken on and around the surfaces of the transformers located at Substation #3. Another wipe sample was taken from the walls below this substation. A wipe sample was also collected on the pavement in the stormwater-runoff area near Substation #4, where an oily stain was visible. Two drums located below Substation #4 contained what appeared to be waste (transformer) oil. Samples of the oil were collected from each of these drums.

On January 6, 1993, TATMs Kinroth and Joe Davis returned to the site to collect additional samples. It was noted that LRA personnel had secured the site and posted PCB warning labels at several locations. TAT performed a walk through of the die cast building on the LRA property. The building contained equipment base pads, electrical conduits, pipes, etc. TAT collected a wipe sample from equipment surfaces located in the south half of the die cast building. A dust sample was also collected from the floor in the south half of the die cast building. Another dust sample was collected from the floor in the north half of the die cast building. Two areas previously sampled were resampled during this visit because no template had been used to delineate the 100-square-centimeter surface areas. The resampling included the wipe sample collected from surfaces on and around the transformers of Substation # 3 and the wipe sample collected from the floor in the breezeway outside the pump room along the south wall.

Table 1 summarizes all samples collected during the two sampling events. The site sketch indicates the location for all samples. All wipe samples were taken from four separate 25 square centimeter areas for a total of 100 cm^2 surface area using templates and cotton gauze pads saturated with hexane. The water sample was collected in an 80 ounce jug. All solids and waste oil samples were collected in 8 ounce jars. Standard field documentation, including sample tags, field sheets, and chain-of-custody procedures were followed. All samples were packed on ice in a cooler and delivered to the EPA Region VII laboratory in Kansas City, Kansas.

TABLE 1
NOVEMBER 16, 1993

Sample #	Media	Location	Analysis
RZ1JJ001	soil	Concrete removal area	PCB, percent solids
RZ1JJ002	soil	Floor drain sediment	" " "
RZ1JJ003	soil	Outside under sub-station #4 platform	" " "
RZ1JJ004	water	Pooled on floor in CBI	PCBs
RZ1JJ005	wipe	East of concrete removal area	PCBs
RZ1JJ005	wipe	Duplicate of RZIJJ005	"
RZ1JJ006	wipe	Pump room entrance	"
RZ1JJ007	wipe	Pump room east end	"
RZ1JJ008	wipe	Field blank	"
RZ1JJ009	wipe	Outside south wall of Pump room in breezeway	"
RZ1JJ010	wipe	Near door to LRA property in CBI building	"
RZ1JJ011	waste	East drum under Substation #4	PCBs in oil
RZ1JJ012	waste	West drum under Substation #4	" " "
RZ1JJ013	wipe	Substation #4 runoff area	PCBs
RZ1JJ014	wipe	Walls under Substation #3	"
RZ1JJ015	wipe	Transformer surfaces, at Substation #3	"

JANUARY 6,1994

Sample #	Media	Location	Analysis
RZ2JJ001	wipe	Floor outside south wall of pump room	PCBs
RZ2JJ002	wipe	Transformer Surfaces, at Substation #3	"
RZ2JJ003	wipe	Equipment surfaces south Die Cast room	PCBs
RZ2JJ004	soil	Dust, south Die Cast room	percent solids total metals, PCBs
RZ2JJ005	soil	Dust, north Die Cast room	percent solids total metals, PCBs

FOLLOWUP ACTIVITIES

Sample results for the November 16, and January 6, sampling events are presented as Attachment C. Table 2 presents an overview of the PCB levels detected in the samples that exceed the Toxic Substances Control Act (TSCA) cleanup levels of 10 μg/100cm^2 for wipe samples and 10 milligrams per kilogram (mg/kg) for soil samples.

TABLE 2

Sample #	AROCLOR 1260	AROCLOR 1248	AROCLOR 1254
RZ1JJ001	29 mg/kg	--	--
RZ1JJ002	4,800 mg/kg	--	--
RZ1JJ003	180,000 mg/kg	--	--
RZ1JJ004	15 μg/L	230 μg/L	130 μg/L
RZ1JJ005	720 μg/100cm^2	--	300 μg/100cm^2
RZ1JJ005D	320 μg/100cm^2	--	70 μg/100cm^2
RZ1JJ006	430 μg/100cm^2	--	--
RZ1JJ007	8 μg/100cm^2	23 μg/100cm^2	17 μg/100cm^2
RZ1JJ008	--	--	--
RZ1JJ009*	160 μg/100cm^2	140 μg/100cm^2	100 μg/100cm^2
RZ1JJ010	660 μg/100cm^2	3,200 μg/100cm^2	1,700 μg/100cm^2
RZ1JJ011	620,000 mg/kg	--	--
RZ1JJ012	640,000 mg/kg	--	--
RZ1JJ013	200,000 μg/100cm^2	--	--
RZ1JJ014	410,000 μg/100cm^2	--	--
RZ1JJ015*	140,000 μg/100cm^2	--	--
RZ2JJ001	57 μg/100cm^2	160 μg/100cm^2	--
RZ2JJ002	96,000 μg/100cm^2	--	--
RZ2JJ003	13 μg/100cm^2	59 μg/100cm^2	--
RZ2JJ004	1,100 mg/kg	1,500 mg/kg	--
RZ2JJ005	7,200 mg/kg	3,000 mg/kg	--

* Sample areas not defined with template to 100cm^2

Samples RZ2JJ004 and RZ2JJ005, which were also analyzed for total metals, indicated total lead levels of 889 mg/kg and 806 mg/kg respectively. The OSWER directive 9355.4-02 has established an interim action level of 500 to 1,000 mg/kg or parts per million (ppm) total lead in soil. EPA Region VII policy has established an action level of 500 ppm total lead in soil in residential areas and 1,000 mg/kg in industrial settings. Other metals including arsenic and cadmium were present, however, action levels have not been established at this site.

SUMMARY

TAT was tasked by Region VII EPA/EP&R to conduct site reconnaissance and assessment at the former Carter Carburetor manufacturing facility located at 2800 to 2840 North Spring in St. Louis, Missouri. Eighteen samples consisting of three soil samples, 12 wipe samples, one water sample, and two waste oil samples were collected and analyzed for PCBs. Samples indicated PCB levels as high as 180,000 mg/kg in solids found outside of the building and 410,000 μg/100cm^2 on surfaces inside of the building. Sediment sampled from an interior floor drain indicated 4,800 mg/kg PCBs. All samples exceed cleanup levels established by the Toxic Substances Control Act (TSCA). Two samples that were analyzed for total metals indicated levels of lead, arsenic, and cadmium. TAT is available for further assistance, should further site characterization be deemed necessary.

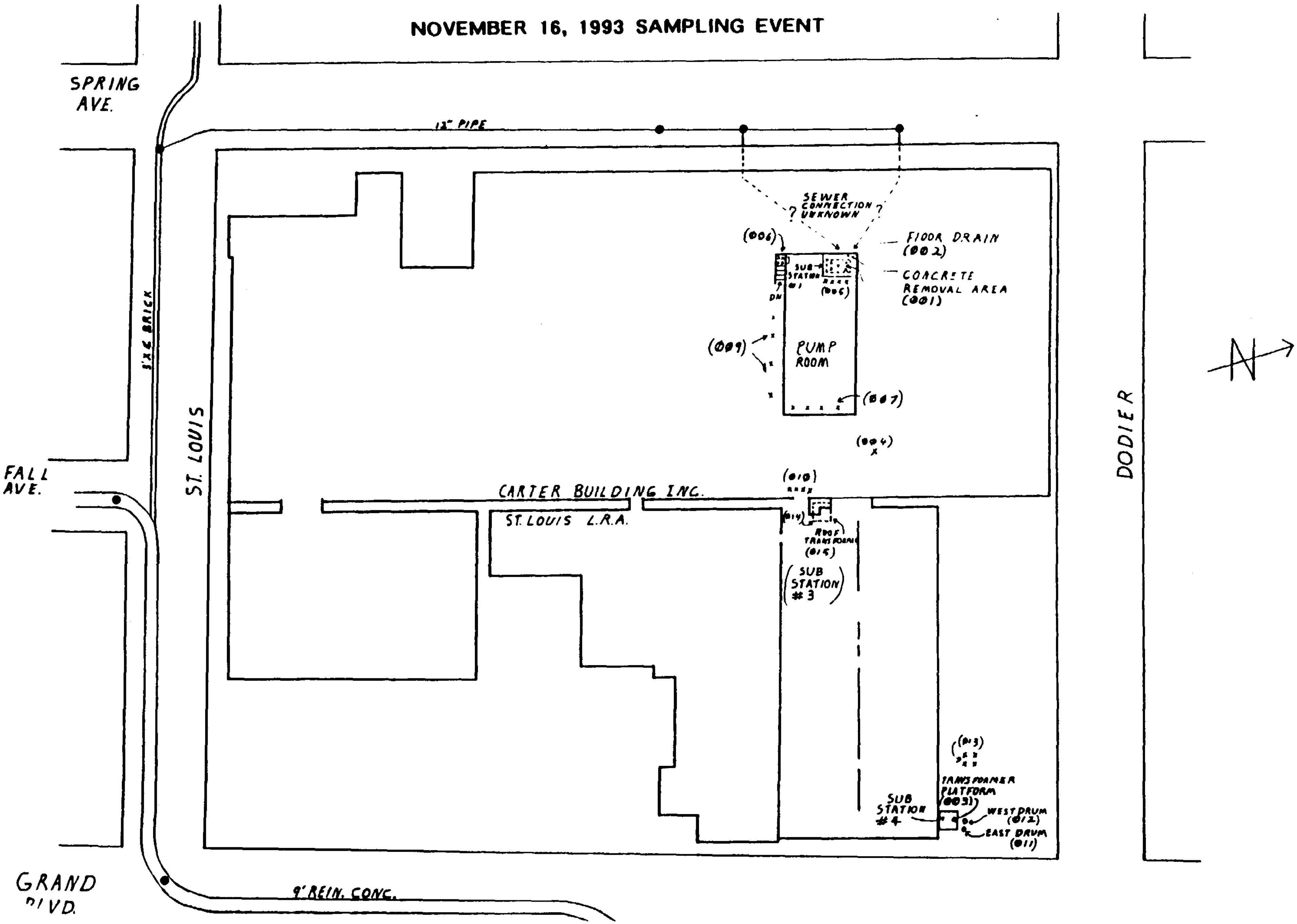
ATTACHMENTS

A: Site Sketches of Sampling Locations
B: Former Carter Carburetor Floor Plan
C: Data Transmittals for Sampling Events
D: Sewer Drawing Obtained From MSD
E: Photographic Record

ATTACHMENT A

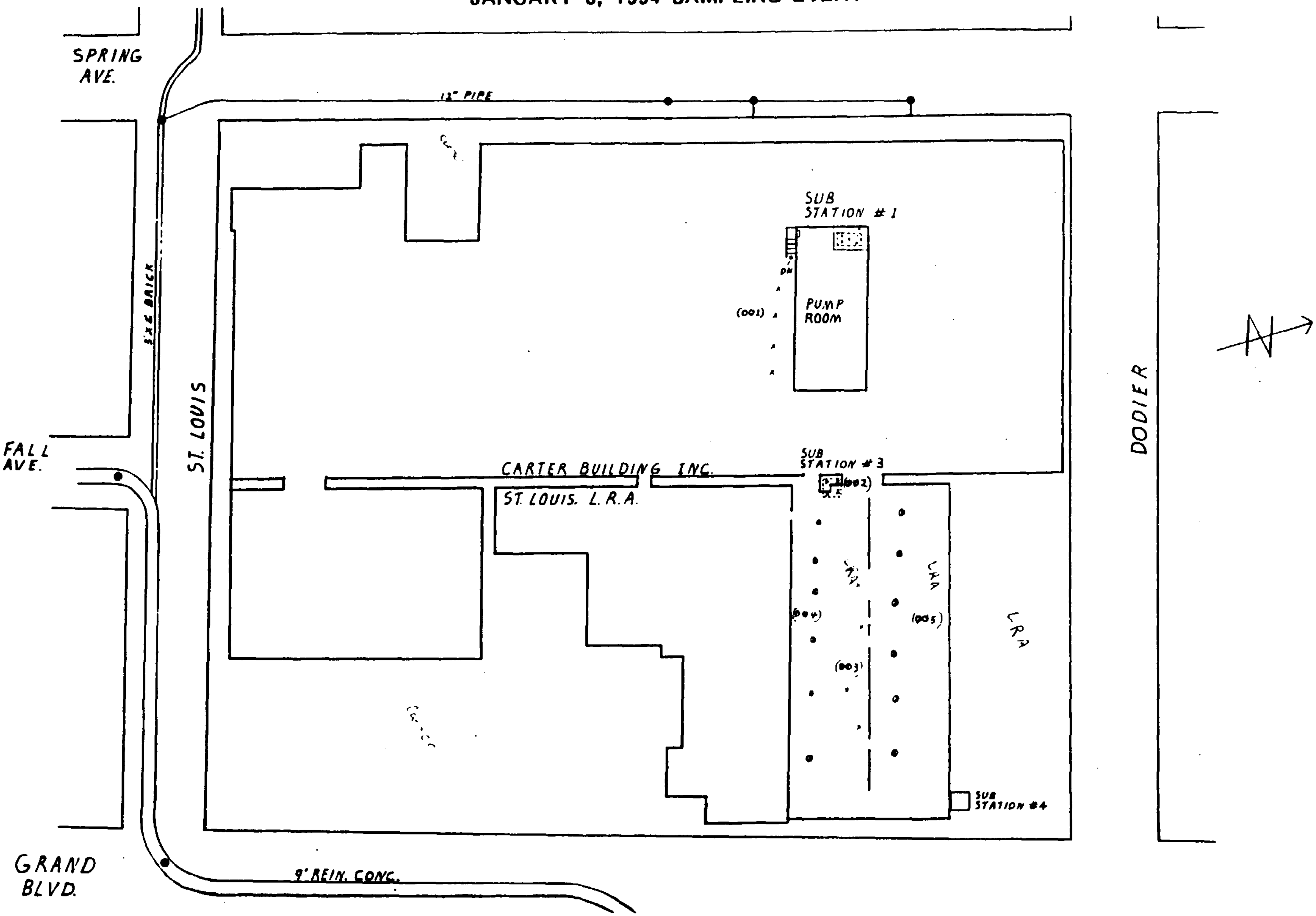
FORMER CARTER CARBURETOR SITE

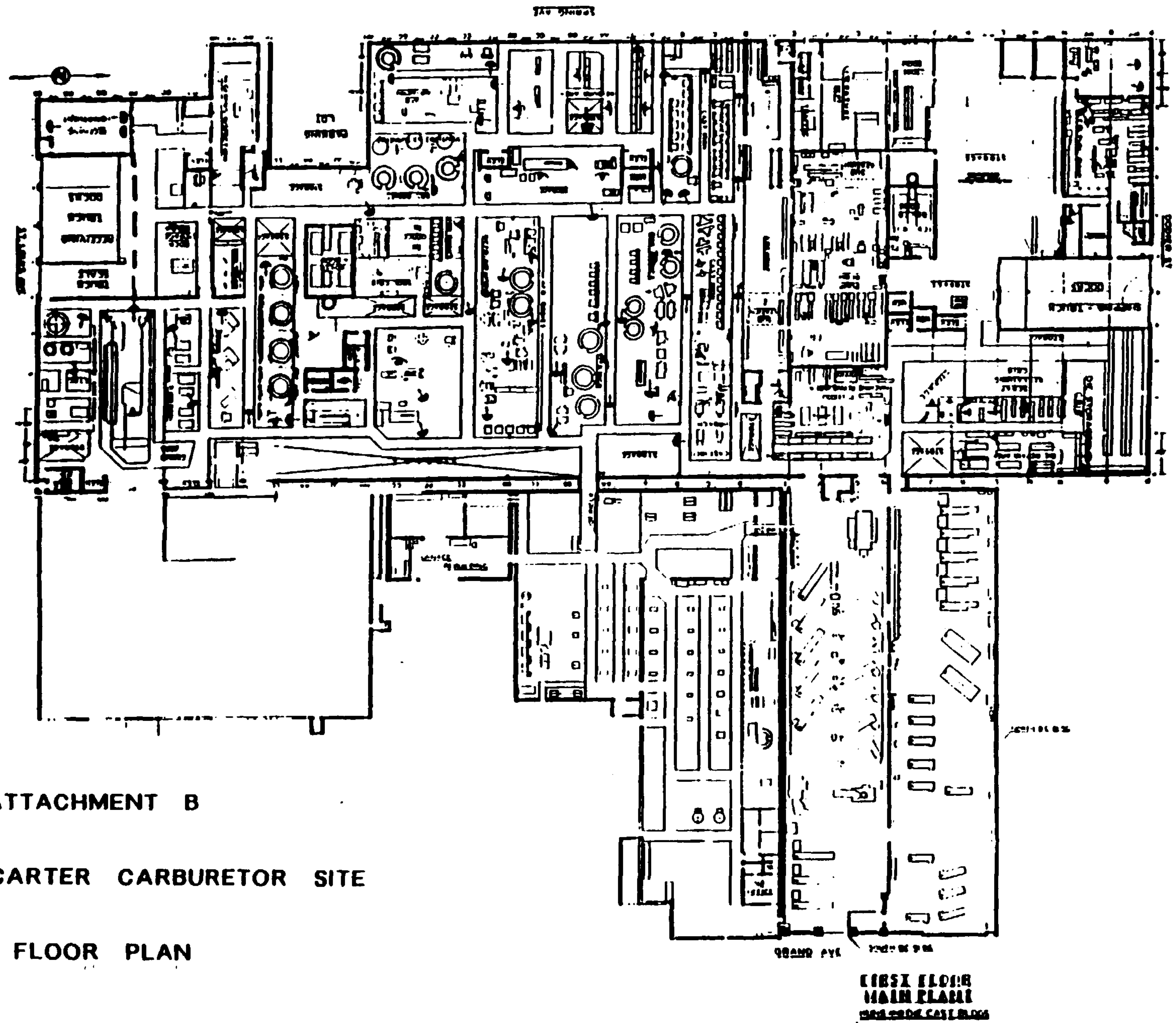
NOVEMBER 16, 1993 SAMPLING EVENT



FORMER CARTER CARBURETOR SITE

JANUARY 6, 1994 SAMPLING EVENT





ATTACHMENT B

FORMER CARTER CARBURETOR SITE

FLOOR PLAN

ATTACHMENT C

DATA TRANSMITTALS FOR SAMPLING EVENTS

ANALYSIS REQUEST REPORT | VALIDATED DATA

FOR ACTIVITY: RZ1JJ

HAMERA, DON | 12/28/93 08:45:43 | ALL SAMPLES

* FINAL REPORT

FY: 94 ACTIVITY: RZ1JJ DESCRIPTION: CARTER CARBURETOR LOCATION: ST. LOUIS MISSOURI

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: L33

LABO DUE DATE IS 1/ 2/94. REPORT DUE DATE IS 12/31/93.

INSPECTION DATE: 11/16/93 ALL SAMPLES RECEIVED DATE: 11/18/93

ALL DATA APPROVED BY.LABO DATE: 12/17/93 FINAL REPORT TRANSMITTED DATE: 00/00/00

EXPECTED LABO TURNAROUND TIME IS 45 DAYS EXPECTED REPORT TURNAROUND TIME IS 45 DAYS

ACTUAL LABO TURNAROUND TIME IS 29 DAYS ACTUAL REPORT TURNAROUND TIME IS 0 DAYS

SITE CODE: JJ SITE: CARTER CARBURETOR SITE

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		S	SOIL FROM CONCRETE REMOVAL AREA	1	ST. LOUIS	MISSOURI				11/16/93	10:45	/ /	:
002		S	SOIL/SLUDGE FROM FLOOR DRAIN	1	ST. LOUIS	MISSOURI				11/16/93	11:10	/ /	:
003		S	LRA PROPERTY SOLIDS UNDER TRANSFORMER	1	ST. LOUIS	MISSOURI				11/16/93	14:35	/ /	:
004		W	WATER ON FLOOR WEST OF LRA PROPERTY	1	ST. LOUIS	MISSOURI				11/16/93	13:00	/ /	:
005		H	WIPE JUST EAST CONCRETE REMOVAL AREA	1	ST. LOUIS	MISSOURI				11/16/93	10:20	/ /	:
005	D	H	DUPLICATE EAST CONCRETE REMOVAL AREA	1	ST. LOUIS	MISSOURI				11/16/93	10:35	/ /	:
006		H	SOUTH ENTRANCE TO TRANSFORMER ROOM	1	ST. LOUIS	MISSOURI				11/16/93	11:15	/ /	:
007		H	EAST END OF TRANSFORMER ROOM	1	ST. LOUIS	MISSOURI				11/16/93	11:25	/ /	:
008	F	H	WIPE SAMPLE FIELD BLANK	1	ST. LOUIS	MISSOURI				11/16/93	11:26	/ /	:
009		H	EAST OF SOUTH DOOR TO TRANSFORMER ROOM	1	ST. LOUIS	MISSOURI				11/16/93	11:45	/ /	:
010		H	FLOOR WEST OF DOOR TO LRA PROPERTY	1	ST. LOUIS	MISSOURI				11/16/93	13:15	/ /	:
011		H	EAST DRUM TRANSFORMER OIL LRA PROPERTY	1	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:
012		H	WEST DRUM TRANSFORMER OIL LRA PROPERTY	1	ST. LOUIS	MISSOURI				11/16/93	14:25	/ /	:
013		H	AREA WEST OF TRANSFORMER OUTSIDE	1	ST. LOUIS	MISSOURI				11/16/93	14:40	/ /	:
014		H	INSIDE LRA BLDG UNDER TRANSFORMER	1	ST. LOUIS	MISSOURI				11/16/93	14:50	/ /	:
015		H	TRANSFORMER SURFACES IN LRA PROPERTY	1	ST. LOUIS	MISSOURI				11/16/93	15:10	/ /	:
951	G	H	METHOD STANDARD	0	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:
951	H	H	TRUE VALUE METHOD STANDARD	0	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:
951	M	H	METHOD BLANK	0	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:
952	G	H	METHOD STANDARD	0	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:
952	H	H	TRUE VALUE METHOD STANDARD	0	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:
952	M	H	METHOD BLANK	0	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:
953	G	S	METHOD STANDARD	0	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:

VALIDATED DATA

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
953	M	S	TRUE VALUE METHOD STANDARD	0	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:
953	M	S	METHOD BLANK	0	ST. LOUIS	MISSOURI				11/16/93	14:20	/ /	:

EXPLANATION OF CODES AND INFORMAT. . ON ANALYSIS REQUEST DETAIL REPORT

SAMPLE INFORMATION:

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER (A 3-DIGIT NUMBER WHICH IN COMBINATION WITH THE ACTIVITY NUMBER AND QCC, PROVIDES AN UNIQUE NUMBER FOR EACH SAMPLE FOR IDENTIFICATION PURPOSES)

QCC = QUALITY CONTROL CODE (A ONE-LETTER CODE USED TO DESIGNATE SPECIFIC QC SAMPLES. THIS FIELD WILL BE BLANK FOR ALL NON-QC OR ACTUAL SAMPLES):

- B = CAL INCREASED CONCENTRATION FOR A LAB SPIKED DUP SAMPLE
- D = MEASURED VALUE FOR FIELD DUPLICATE SAMPLE
- F = MEASURED VALUE FOR FIELD BLANK
- G = MEASURED VALUE FOR METHOD STANDARD
- H = TRUE VALUE FOR METHOD STANDARD
- K = CAL INCREASED CONCENTRATION FOR FIELD SPIKED DUP SAMPLE
- L = MEASURED VALUE FOR A LAB DUPLICATE SAMPLE
- M = MEASURED VALUE FOR LAB BLANK
- N = MEASURED CONCENTRATION OF FIELD SPIKED DUPLICATE
- P = MEASURED VALUE FOR PERFORMANCE STANDARD
- R = CAL INCREASED CONCENTRATION RESULTING FROM LAB SPIKE
- S = MEASURED CONCENTRATION OF LAB SPIKED SAMPLE
- T = TRUE VALUE OF PERFORMANCE STANDARD
- V = MEASURED CONCENTRATION OF LAB SPIKED DUPLICATE
- Y = MEASURED CONCENTRATION OF FIELD SPIKED SAMPLE
- Z = CAL INCREASED CONCENTRATION RESULTING FROM FIELD SPIKE
- 1 = MEASURED VALUE OF FIRST SPIKED REPLICATE
- 2 = MEASURED VALUE OF SECOND SPIKED REPLICATE
- 3 = MEASURED VALUE OF THIRD SPIKED REPLICATE
- 4 = MEASURED VALUE OF FOURTH SPIKED REPLICATE
- 5 = MEASURED VALUE OF FIFTH SPIKED REPLICATE
- 6 = MEASURED VALUE OF SIXTH SPIKED REPLICATE
- 7 = MEASURED VALUE OF SEVENTH SPIKED REPLICATE

M = MEDIA CODE (A ONE-LETTER CODE DESIGNATING THE MEDIA OF THE SAMPLE):

- A = AIR   H = HAZARDOUS WASTE/OTHER
- S = SOLID (SOIL, SEDIMENT, SLUDGE)
- T = TISSUE (PLANT & ANIMAL)
- W = WATER (GROUND WATER, SURFACE WATER, WASTE WATER, DRINKING WATER)

DESCRIPTION = A SHORT DESCRIPTION OF THE LOCATION WHERE SAMPLE WAS COLLECTED

AIRS/STORET LOC. NO. = THE SPECIFIC LOCATION ID NUMBER OF EITHER OF THESE NATIONAL DATABASE SYSTEMS, AS APPROPRIATE

DATE/TIME INFORMATION = SPECIFIC INFORMATION REGARDING WHEN THE SAMPLE WAS COLLECTED

- BEG. DATE = DATE SAMPLING WAS STARTED
- BEG. TIME = TIME SAMPLING WAS STARTED
- END DATE = DATE SAMPLING WAS COMPLETED
- END TIME = TIME SAMPLING WAS COMPLETED

NOTE: A GRAB SAMPLE WILL CONTAIN ONLY BEG. DATE/TIME
A TIMED COMPOSITE SAMPLE WILL CONTAIN BOTH BEG AND END DATE/TIME TO DESIGNATE DURATION OF SAMPLE COLLECTION

OTHER CODES

- V = VALIDATED

ANALYTICAL RESULTS/MEASUREMENTS INFORMATION:

COMPOUND = MGP (MEDIA-GROUP-PARAMETER) CODE AND NAME OF THE MEASURED CONSTITUENT OR CHARACTERISTIC OF EACH SAMPLE

UNITS = SPECIFIC UNITS IN WHICH RESULTS ARE REPORTED:

- C = CENTIGRADE (CELSIUS) DEGREES
- CFS = CUBIC FEET PER SECOND
- GPM = GALLONS PER MINUTE
- IN = INCHES
- I.D. = SPECIES IDENTIFICATION
- KG = KILOGRAM
- L = LITER
- LB = POUNDS
- MG = MILLIGRAMS (1 X 10-3 GRAMS)
- MGD = MILLION GALLONS PER DAY
- MPH = MILES PER HOUR
- MV = MILLIVOLT
- M/F = MALE/FEMALE
- M2 = SQUARE METER
- M3 = CUBIC METER
- NA = NOT APPLICABLE
- NG = NANOGRAMS (1 X 10-9 GRAMS)
- NTU = NEPHELOMETRIC TURBIDITY UNITS
- PC/L = PICO (1 X 10-12) CURRIES PER LITER
- PG = PICOGRAMS (1 X 10-12 GRAMS)
- P/CM2 = PICOGRAMS PER SQUARE CENTIMETER
- SCM = STANDARD CUBIC METER (1 ATM, 25 C)
- SQ FT = SQUARE FEET
- SU = STANDARD UNITS (PH)
- UG = MICROGRAMS (1 X 10-6 GRAMS)
- UMHOS = MICROMHOS/CM (CONDUCTIVITY UNITS)
- U/CC2 = MICROGRAMS PER 100 SQUARE CENTIMETERS
- U/CM2 = MICROGRAMS PER SQUARE CENTIMETER
- 1000G = 1000 GALLONS
- +/- = POSITIVE/NEGATIVE
- # = NUMBER

DATA QUALIFIERS = SPECIFIC CODES USED IN CONJUNCTION WITH DATA VALUES TO PROVIDE ADDITIONAL INFORMATION ON THE REPORTED RESULTS, OR USED TO EXPLAIN THE ABSENCE OF A SPECIFIC VALUE:

- BLANK = IF FIELD IS BLANK, NO REMARKS OR QUALIFIERS ARE PERTINENT. FOR FINAL REPORTED DATA, THIS MEANS THAT THE VALUES HAVE BEEN REVIEWED AND FOUND TO BE ACCEPTABLE FOR USE.
- I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
- J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES
- K = ACTUAL VALUE OF SAMPLE IS < VALUE REPORTED
- L = ACTUAL VALUE OF SAMPLE IS > VALUE REPORTED
- M = DETECTED BUT BELOW THE LEVEL OF REPORTED VALUE FOR ACCURATE QUANTIFICATION
- O = PARAMETER NOT ANALYZED
- U = ACTUAL VALUE OF SAMPLE IS < THE MEASUREMENT DETECTION LIMIT (REPORTED VALUE)

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ1JJ VALIDATED DATA

COMPOUND	UNITS	001	002	003	004	005
HC11 PCB - AROCLOR 1016, WIPE	UGCM2					0.20U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2					0.20U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2					0.050U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2					0.050U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2					0.10U
HC16 PCB - AROCLOR 1254, WIPE	UGCM2					3.0
HC17 PCB - AROCLOR 1260, WIPE	UGCM2					7.2
SG07 SOLIDS, PERCENT	%	88.2	74.7	94.7		
SP17 PCB-AROCLOR 1016	UG/KG	800U	40000U	40000000U		
SP18 PCB-AROCLOR 1221	UG/KG	600U	30000U	30000000U		
SP19 PCB-AROCLOR 1232	UG/KG	200U	10000U	10000000U		
SP20 PCB-AROCLOR 1242	UG/KG	200U	10000U	10000000U		
SP21 PCB-AROCLOR 1248	UG/KG	400U	20000U	20000000U		
SP22 PCB-AROCLOR 1254	UG/KG	100U	5000U	5000000U		
SP23 PCB-AROCLOR 1260	UG/KG	29000	4800000	180,000,000		
WP17 PCB-AROCLOR 1016	UG/L				8.0U	
WP18 PCB-AROCLOR 1221	UG/L				6.0U	
WP19 PCB-AROCLOR 1232	UG/L				2.0U	
WP20 PCB-AROCLOR 1242	UG/L				2.0U	
WP21 PCB-AROCLOR 1248	UG/L				230	
WP22 PCB-AROCLOR 1254	UG/L				130	
WP23 PCB-AROCLOR 1260	UG/L				15	
ZZ01 SAMPLE NUMBER	NA	001	002	003	004	005
ZZ02 ACTIVITY CODE	NA	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 4-RZ1JJ   VALIDATED DATA

COMPOUND	UNITS	005 D	006	007	008 F	009
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.20U	1.0U	0.020U	0.0040U	0.40U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.20U	0.80U	0.015U	0.0030U	0.30U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.050U	0.30U	0.0050U	0.0010U	0.10U
HC14 PCB - AROCLOR 1242,-WIPE	UGCM2	0.050U	0.30U	0.0050U	0.0010U	0.10U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.10U	0.50U	0.23	0.014U	1.4
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.70	0.10U	0.17	0.013U	1.0
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	3.2	4.3	0.082	0.073U	1.6
ZZ01 SAMPLE NUMBER	NA	005	006	007	008	009
ZZ02 ACTIVITY CODE	NA	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 4-RZ1JJ   VALIDATED DATA

COMPOUND	UNITS	010	011	012	013	014
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	4.0U			200U	1000U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	3.0U			200U	900U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	1.0U			50U	300U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	1.0U			50U	300U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	32			100U	600U
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	17			25U	150U
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	6.6			2000	4100
HP17 PCB-AROCLOR 1016	MG/KG		70000U	70000U		
HP18 PCB-AROCLOR 1221	MG/KG		60000U	60000U		
HP19 PCB-AROCLOR 1232	MG/KG		20000U	20000U		
HP20 PCB-AROCLOR 1242	MG/KG		20000U	20000U		
HP21 PCB-AROCLOR 1248	MG/KG		30000U	30000U		
HP22 PCB-AROCLOR 1254	MG/KG		10000U	10000U		
HP23 PCB-AROCLOR 1260	MG/KG		620000	640000		
ZZ01 SAMPLE NUMBER	NA	010	011	012	013	014
ZZ02 ACTIVITY CODE	NA	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ1JJ VALIDATED DATA

COMPOUND	UNITS	015	951 G	951 H	951 M	952 G
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	400U			0.0040U	
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	300U			0.0030U	
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	100U			0.0010U	
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	100U	0.0794	0.080	0.0010U	
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	200U			0.0020U	
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	50U			0.0017	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	1400			0.00050U	
HP23 PCB-AROCLOR 1260	MG/KG					8.48
ZZ01 SAMPLE NUMBER	NA	015	951	951	951	952
ZZ02 ACTIVITY CODE	NA	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 4-RZ1JJ   VALIDATED DATA

COMPOUND	UNITS	952 M	952 M	953 G	953 M	953 M
HP17 PCB-AROCLOR 1016	MG/KG		0.70U			
HP18 PCB-AROCLOR 1221	MG/KG		0.60U			
HP19 PCB-AROCLOR 1232	MG/KG		0.20U			
HP20 PCB-AROCLOR 1242	MG/KG		0.20U			
HP21 PCB-AROCLOR 1248	MG/KG		0.30U			
HP22 PCB-AROCLOR 1254	MG/KG		0.10U			
HP23 PCB-AROCLOR 1260	MG/KG	8.0	0.14			
SP17 PCB-AROCLOR 1016	UG/KG					8.0U
SP18 PCB-AROCLOR 1221	UG/KG					6.0U
SP19 PCB-AROCLOR 1232	UG/KG					2.0U
SP20 PCB-AROCLOR 1242	UG/KG			120	160	2.0U
SP21 PCB-AROCLOR 1248	UG/KG					4.0U
SP22 PCB-AROCLOR 1254	UG/KG					1.0U
SP23 PCB-AROCLOR 1260	UG/KG					1.0U
ZZ01 SAMPLE NUMBER	NA	952	952	953	953	953
ZZ02 ACTIVITY CODE	NA	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ	RZ1JJ

VALI. ED DATA

ACTIVITY RZ1JJ CARTER CARBURETOR

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, AIRS, OR ARCHIVE.

CIRCLE ONE: STORET AIRS ARCHIVE

FINAL DATA REPORT APPROVED BY PROJECT LEADER ON 12/28/93 08:45:43 BY Donald P. Hamura ______________________.

ANALYSIS REQUEST REPORT

VALIDATED DATA

FOR ACTIVITY: RZ2JJ

HAMERA, DON

01/26/94 16:50:18

ALL REAL SAMPLES AND FIELD Q.C.

* FINAL REPORT

FY: 94 ACTIVITY: RZ2JJ DESCRIPTION: CARTER CARBURETOR LOCATION: ST. LOUIS MISSOURI

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: L33

LABO DUE DATE IS 2/ 6/94. REPORT DUE DATE IS 2/20/94.

INSPECTION DATE: 1/ 6/94 ALL SAMPLES RECEIVED DATE: 01/07/94

ALL DATA APPROVED BY LABO DATE: 01/13/94 FINAL REPORT TRANSMITTED DATE: 01/26/94

EXPECTED LABO TURNAROUND TIME IS 30 DAYS EXPECTED REPORT TURNAROUND TIME IS 45 DAYS

ACTUAL LABO TURNAROUND TIME IS 6 DAYS ACTUAL REPORT TURNAROUND TIME IS 20 DAYS

SITE CODE: JJ SITE: CARTER CARBURETOR SITE

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		H	EAST OF SOUTH DOOR OF TRANSFORMER ROOM	1	ST. LOUIS	MISSOURI	3			01/06/94	11:30	/ /	:
002		H	TRANSFORMER SURFACES-LRA PROPERTY WEST	1	ST. LOUIS	MISSOURI	3			01/06/94	11:40	/ /	:
003		H	LRA PROPERTY-SOUTH 1/2 FURNACE ROOM	1	ST. LOUIS	MISSOURI	3			01/06/94	09:10	/ /	:
004		S	SOUTH 1/2 FURNACE ROOM	1	ST. LOUIS	MISSOURI	3			01/06/94	09:15	/ /	:
005		S	NORTH 1/2 FURNACE ROOM	1	ST. LOUIS	MISSOURI	3			01/06/94	09:25	/ /	:

EXPLANATION OF CODES AND INFORMAT: ON ANALYSIS REQUEST DETAIL REPORT

SAMPLE INFORMATION:

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER (A 3-DIGIT NUMBER WHICH IN COMBINATION WITH THE ACTIVITY NUMBER AND QCC, PROVIDES AN UNIQUE NUMBER FOR EACH SAMPLE FOR IDENTIFICATION PURPOSES)

QCC = QUALITY CONTROL CODE (A ONE-LETTER CODE USED TO DESIGNATE SPECIFIC QC SAMPLES. THIS FIELD WILL BE BLANK FOR ALL NON-QC OR ACTUAL SAMPLES):

- B = CAL INCREASED CONCENTRATION FOR A LAB SPIKED DUP SAMPLE
- D = MEASURED VALUE FOR FIELD DUPLICATE SAMPLE
- F = MEASURED VALUE FOR FIELD BLANK
- G = MEASURED VALUE FOR METHOD STANDARD
- H = TRUE VALUE FOR METHOD STANDARD
- K = CAL INCREASED CONCENTRATION FOR FIELD SPIKED DUP SAMPLE
- L = MEASURED VALUE FOR A LAB DUPLICATE SAMPLE
- M = MEASURED VALUE FOR LAB BLANK
- N = MEASURED CONCENTRATION OF FIELD SPIKED DUPLICATE
- P = MEASURED VALUE FOR PERFORMANCE STANDARD
- R = CAL INCREASED CONCENTRATION RESULTING FROM LAB SPIKE
- S = MEASURED CONCENTRATION OF LAB SPIKED SAMPLE
- T = TRUE VALUE OF PERFORMANCE STANDARD
- W = MEASURED CONCENTRATION OF LAB SPIKED DUPLICATE
- Y = MEASURED CONCENTRATION OF FIELD SPIKED SAMPLE
- Z = CAL INCREASED CONCENTRATION RESULTING FROM FIELD SPIKE
- 1 = MEASURED VALUE OF FIRST SPIKED REPLICATE
- 2 = MEASURED VALUE OF SECOND SPIKED REPLICATE
- 3 = MEASURED VALUE OF THIRD SPIKED REPLICATE
- 4 = MEASURED VALUE OF FOURTH SPIKED REPLICATE
- 5 = MEASURED VALUE OF FIFTH SPIKED REPLICATE
- 6 = MEASURED VALUE OF SIXTH SPIKED REPLICATE
- 7 = MEASURED VALUE OF SEVENTH SPIKED REPLICATE

M = MEDIA CODE (A ONE-LETTER CODE DESIGNATING THE MEDIA OF THE SAMPLE):

- A = AIR H = HAZARDOUS WASTE/OTHER
- S = SOLID (SOIL, SEDIMENT, SLUDGE)
- T = TISSUE (PLANT & ANIMAL)
- W = WATER (GROUND WATER, SURFACE WATER, WASTE WATER, DRINKING WATER)

DESCRIPTION = A SHORT DESCRIPTION OF THE LOCATION WHERE SAMPLE WAS COLLECTED

AIRS/STORET LOC. NO. = *THE SPECIFIC LOCATION ID NUMBER OF EITHER OF* THESE NATIONAL DATABASE SYSTEMS, AS APPROPRIATE

DATE/TIME INFORMATION = SPECIFIC INFORMATION REGARDING WHEN THE SAMPLE WAS COLLECTED

- BEG. DATE = DATE SAMPLING WAS STARTED
- BEG. TIME = TIME SAMPLING WAS STARTED
- END DATE = DATE SAMPLING WAS COMPLETED
- END TIME = TIME SAMPLING WAS COMPLETED
- NOTE: A GRAB SAMPLE WILL CONTAIN ONLY BEG. DATE/TIME
  A TIMED COMPOSITE SAMPLE WILL CONTAIN BOTH BEG AND END DATE/TIME TO DESIGNATE DURATION OF SAMPLE COLLECTION

OTHER CODES

- V = VALIDATED

ANALYTICAL RESULTS/MEASUREMENTS INFORMATION:

COMPOUND = MGP (MEDIA-GROUP-PARAMETER) CODE AND NAME OF THE MEASURED CONSTITUENT OR CHARACTERISTIC OF EACH SAMPLE

UNITS = SPECIFIC UNITS IN WHICH RESULTS ARE REPORTED:

- C = CENTIGRADE (CELSIUS) DEGREES
- CFS = CUBIC FEET PER SECOND
- GPM = GALLONS PER MINUTE
- IN = INCHES
- I.D. = SPECIES IDENTIFICATION
- KG = KILOGRAM
- L = LITER
- LB = POUNDS
- MG = MILLIGRAMS (1 X 10-3 GRAMS)
- MGD = MILLION GALLONS PER DAY
- MPH = MILES PER HOUR
- MV = MILLIVOLT
- M/F = MALE/FEMALE
- M2 = SQUARE METER
- M3 = CUBIC METER
- NA = NOT APPLICABLE
- NG = NANOGRAMS (1 X 10-9 GRAMS)
- NTU = NEPHELOMETRIC TURBIDITY UNITS
- PC/L = PICO (1 X 10-12) CURRIES PER LITER
- PG = PICOGRAMS (1 X 10-12 GRAMS)
- P/CM2 = PICOGRAMS PER SQUARE CENTIMETER
- SCM = STANDARD CUBIC METER (1 ATM, 25 C)
- SQ FT = SQUARE FEET
- SU = STANDARD UNITS (PH)
- UG = MICROGRAMS (1 X 10-6 GRAMS)
- UMHOS = MICROMHOS/CM (CONDUCTIVITY UNITS)
- U/CC2 = MICROGRAMS PER 100 SQUARE CENTIMETERS
- U/CM2 = MICROGRAMS PER SQUARE CENTIMETER
- 1000G = 1000 GALLONS
- +/- = POSITIVE/NEGATIVE
- # = NUMBER

DATA QUALIFIERS = SPECIFIC CODES USED IN CONJUNCTION WITH DATA VALUES TO PROVIDE ADDITIONAL INFORMATION ON THE REPORTED RESULTS, OR USED TO EXPLAIN THE ABSENCE OF A SPECIFIC VALUE:

- BLANK = *IF FIELD IS BLANK, NO REMARKS OR* QUALIFIERS ARE PERTINENT. FOR FINAL REPORTED DATA, THIS MEANS THAT THE VALUES HAVE BEEN REVIEWED AND FOUND TO BE ACCEPTABLE FOR USE.
- I = *INVALID SAMPLE/DATA - VALUE NOT REPORTED*
- J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES
- K = ACTUAL VALUE OF SAMPLE IS < VALUE REPORTED
- L = ACTUAL VALUE OF SAMPLE IS > VALUE REPORTED
- M = *DETECTED BUT BELOW THE LEVEL OF REPORTED* VALUE FOR ACCURATE QUANTIFICATION
- O = PARAMETER NOT ANALYZED
- U = ACTUAL VALUE OF SAMPLE IS < THE MEASUREMENT DETECTION LIMIT (REPORTED VALUE)

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 4-RZ2JJ   VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.40	U	400	U	0.40	U				
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.30	U	300	U	0.30	U				
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.10	U	100	U	0.10	U				
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.40	U	400	U	0.40	U				
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	1.6		400	U	0.59					
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.40	U	400	U	0.40	U				
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.57		960		0.13					
SG07 SOLIDS, PERCENT	%							78.4		85.8	
SM01 SILVER, TOTAL, BY ICAP	MG/KG							3.31		9.73	
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG							23000		28000	
SM03 ARSENIC, TOTAL, BY ICAP	MG/KG						√	25.4		22.9	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG							489		468	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG							0.640		0.610	
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG						√	40.0		38.0	
SM07 COBALT, TOTAL, BY ICAP	MG/KG							12.5		11.1	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG							150		158	
SM09 COPPER, TOTAL, BY ICAP	MG/KG							886		911	
SM10 IRON, TOTAL, BY ICAP	MG/KG							58300		50500	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG							410		29000	
SM13 NICKEL, TOTAL, BY ICAP	MG/KG							33.9		35.9	
SM14 LEAD, TOTAL, BY ICAP	MG/KG						√	889		806	
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG							12.6		7.32	
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG							6.00	U	6.00	U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG							25.5		21.6	
SM20 ZINC, TOTAL, BY ICAP	MG/KG							6140		8410	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG							22300		30100	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 4-RZ2JJ   VALIDATED DATA

COMPOUND	UNITS	001	002	003	004	005
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG				3950	2150
SM23 SODIUM, TOTAL, BY ICAP	MG/KG				1980	1010
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG				1430	1110
SM32 SELENIUM, TOTAL, BY AA	MG/KG				0.22	0.22
SP17 PCB-AROCLOR 1016	UG/KG				1400000 U	1400000 U
SP18 PCB-AROCLOR 1221	UG/KG				1200000 U	1200000 U
SP19 PCB-AROCLOR 1232	UG/KG				400000 U	400000 U
SP20 PCB-AROCLOR 1242	UG/KG				380000 U	380000 U
SP21 PCB-AROCLOR 1248	UG/KG				1500000	3000000
SP22 PCB-AROCLOR 1254	UG/KG				180000 U	180000 U
SP23 PCB-AROCLOR 1260	UG/KG				1100000	7200000
ST09 CYANIDE, TOTAL	MG/KG				11.1	1.02
ZZ01 SAMPLE NUMBER	NA	001	002	003	004	005
ZZ02 ACTIVITY CODE	NA	RZ2JJ	RZ2JJ	RZ2JJ	RZ2JJ	RZ2JJ

VALI ED DATA

ACTIVITY RZ2JJ CARTER CARBURETOR

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, AIRS, OR ARCHIVE.

CIRCLE ONE: STORET AIRS ARCHIVE

FINAL DATA REPORT APPROVED BY PROJECT LEADER ON 01/26/94 16:50:18 BY Donald F. Hanna

ATTACHMENT D

SEWER DRAWING

ST. LOUIS METROPOLITAN SEWER DISTRICT

ATTACHMENT E

<<PHOTOLOG>>

Ecology and Environment, Inc.

Photographic Record

Client: U.S. EPA REGION VII
Camera Make: OLYMPUS OM77AF

E & E Job No.: ZT 2071
Serial No. : 696823

SITE NAME: Carter Carburetor Site
SITE LOCATION: St Louis Missouri
TDD/PAN No.: T07-9310-027/PAN# EM01034SAA

Photographer: TAT [illegible]
Date/Time : Nov. 16, 1993
Lens: Type: 50mm
Serial No.: 1028199
Frame No. :
Direction : South
Comments :

Substation #4

Photographer: TAT ~~Dan~~ Kirsten
Date/Time : Nov. 16, 1993
Lens: Type: 50 mm
Serial No.: 1028199
Frame No. :
Direction : West
Comments :

[illegible] west
[illegible] #4
[illegible] # RZ155013
[illegible]
[illegible] Photo

<<PHOTOLOG>>

Ecology and Environment, Inc.

Photographic Record

Client: U.S. EPA REGION VII
Camera Make: OLYMPUS OM77AF

E & E Job No.: ZT2071
Serial No. : 696823

SITE NAME: Carter Carburetor Site
SITE LOCATION: St Louis Missouri
TDD/PAN No.: T07-9310-027/PAN# EM01034SAA

Photographer: TAT Kinroth
Date/Time : [illegible]
Lens: Type: 50mm
Serial No.: 1028199
Frame No. :
Direction : West
Comments :

Drums of waste transformer oil below Substation #4

Photographer:
Date/Time :
Lens: Type: 50 mm
Serial No.: 1028199
Frame No. :
Direction :
Comments :

<<PHOTOLOG>>

Ecology and Environment, Inc.

Photographic Record

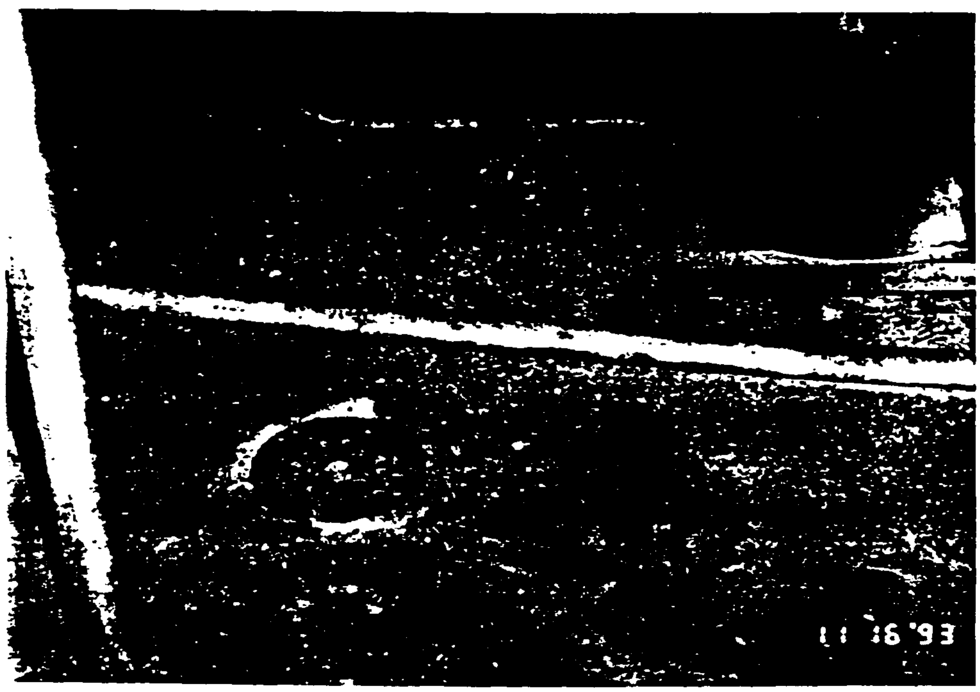
Client: U.S. EPA REGION VII
Camera Make: OLYMPUS OM77AF

E & E Job No.: ZT2071
Serial No. : [illegible]

SITE NAME: [illegible]
SITE LOCATION: [illegible]
TDD/PAN No.: [illegible] SAA

Photographer: [illegible]
Date/Time : [illegible]
Lens: Type: [illegible]
Serial No.: [illegible]
Frame No. :
Direction : [illegible]
Comments :
[illegible]

Photographer: [illegible]
Date/Time : [illegible]
Lens: Type: [illegible]
Serial No.: [illegible]
Frame No. :
Direction : [illegible]
Comments :
[illegible]



<<PHOTOLOG>>

Ecology and Environment, Inc.

Photographic Record

Client: U.S. EPA REGION VII
Camera Make: OLYMPUS OM77AF

E & E Job No.: ZT 2071
Serial No. : 696823

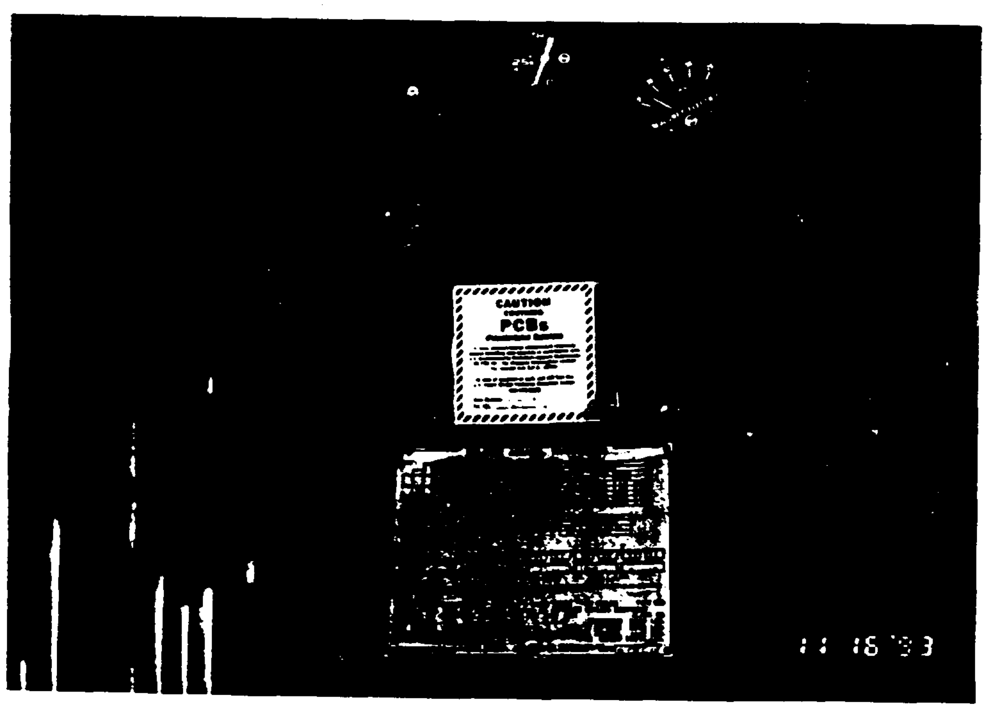
SITE NAME: Carter Carburetor Site
SITE LOCATION: St Louis Missouri
TDD/PAN No.: T07-9310-027/PAN# EM01034SAA

Photographer: T. T. Kin[illegible]
Date/Time : [illegible]
Lens: Type: 50mm
Serial No.: 1028199
Frame No. :
Direction : East
Comments :

Transformer at
Station #3

Photographer: TAT Kin[illegible]
Date/Time : Nov 16, 1993 [illegible]
Lens: Type: 50 mm
Serial No.: 1028199
Frame No. :
Direction : East
Comments :

Transformer at
[illegible] #3



MA. 6

ecology and environment, inc.

CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913/432-9961

International Specialists in the Environment

MEMORANDUM

TO: Roy Crossland, EPA/DPO

FROM: Dave Kinroth, E & E/TATM

THRU: Joe Chandler, E & E/TATL

DATE: May 9, 1995

SUBJECT: Site Assessment: Carter Carburetor, St. Louis, Missouri
SSID: JJ
TDD: T07-9503-001
PAN: EMO1034SCA
OSC: Don Hamera

INTRODUCTION

The Ecology & Environment, Inc. (E & E), Technical Assistance Team (TAT) was tasked by the U.S. Environmental Protection Agency (EPA) Region VII Emergency Planning and Response (EP&R) Branch under Technical Direction Document (TDD) T07-9503-001 to assist the on-scene coordinator (OSC) in conducting a site reconnaissance at the Carter Carburetor site located at 2800-2840 North Spring in St. Louis, Missouri. The purpose of this site visit was to document current site conditions and to check on the condition of fences and warning signs at this site, which is contaminated with polychlorinated biphenyls (PCBs). A trip report documenting the site visit and detailing current site conditions was requested upon completion.

BACKGROUND

The former Carter Carburetor facility manufactured equipment for gasoline and diesel powered engines dating back to the 1930s. Carter Carburetor and Carter Automotive Products were subsidiaries of ACF Industries, Inc. ACF acquired the site property prior to the 1930s. In the mid-1980s, ACF closed the facility and most of the equipment was dismantled and shipped to new locations or sold. On April 26, 1985, the Land Reutilization Authority of St. Louis (LRA) accepted title of the property from ACF and on the same day sold the property to Hubert R. Thompson. The LRA had been informed by ACF that there was electrical equipment on site containing PCBs and subsequently Thompson was also informed. On October 29, 1991, the site was sold to George Moore, president of Carter Building Inc. (CBI), after Thompson defaulted on the property loan. Currently, CBI owns the western part of the facility and the LRA owns the northeastern part of the facility. CBI currently leases portions of their facility to various businesses.

recycled paper

Don Hamera	EPA/EP&R OSC
Paul Doherty	EPA/SPFD
David Kinroth	E & E/TAT
Gene Schmittgtins	Private Counsel for LRA
Terry Lueckenhoff	" " " "
Ray Holland	LRA/St. Louis Development Corp. Maintenance
Tim Hippensteel	Environmental Operations/contractor representative for LRA

The following observations were noted during the site inspection of the LRA owned portion of the site:

1) A hole in the site perimeter fence existed on the north end of the lot along Dodier Street, allowing unrestricted entrance onto the site.

2) A window frame missing from the west end of the north side of the diecast building allowed access to the building. It was evident that people had recently been in the building as evidenced from new beverage cans, trash etc. in the building.

3) In general, site conditions continue to deteriorate from the elements. The roof has collapsed in some areas, and direct access is available to the building's interior.

Following the inspection of the LRA owned diecast building area, EPA and TAT met with personnel representing CBI to conduct an inspection of the remainder of the facility owned by CBI. The following personnel representing CBI were present during the site reconnaissance:

Tom Kerr	Representative for CBI
James McMullin	Private Counsel for CBI
Robert Johnson	Fugro-McClelland Environmental Consultants

Observations noted during the site inspection of the CBI owned portion of the site revealed the following changes:

1) George Moore no longer uses the southeast corner area of the first floor as an office area. A new tenant, Caribou Corporation, currently occupies this area of the building and produces windshield washer fluid. Tom Kerr indicated that the principal of Caribou Corporation is King Taylor.

2) CBI has begun cleaning the first and second floor areas of their building, sweeping up dust and clearing debris. There had been no changes on the third and fourth floors.

ATTACHMENT A

ATTACHMENT .B

ATTACHMENT C

<<PHOTOLOG>>

Ecology and Environment, Inc.

Photographic Record

Client: U.S. EPA REGION VII
Camera Make: OLYMPUS OM77AF

E & E Job No.: ZT3071
Serial No. : 1080224

SITE NAME: CARTER CARBURETOR SITE
SITE LOCATION: St. Louis, Missouri
TDD/PAN No.: T07-9503-001/EMO1034SCA

Photographer: Kinroth
Date/Time : 03/20/95 14:00
Lens: Type: 50 mm
Serial No.: 1028199
Frame No. : 3
Direction : E
Comments : Roof collapsing
n over diecast room area of
RA property

Ref. 7

ecology and environment, inc.
CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913/432-9961
International Specialists in the Environment

MEMORANDUM

TO: Roy Crossland, EPA/DPO

FROM: Joseph Davis, E & E/TATM

THRU: Joe Chandler, E & E/TATL

DATE: September 7, 1995

SUBJECT: CERCLA Site Assessment: Carter Carburetor, St. Louis, Missouri
SSID: JJ
TDD: T07-9505-009
PAN: EMO1034SEA
EPA/OSC: Don Hamera

INTRODUCTION

The Ecology & Environment, Inc. (E & E), Technical Assistance Team (TAT) was tasked by the United States Environmental Protection Agency (EPA) Region VII Emergency Planning and Response (EP&R) Branch to conduct an integrated site assessment at the former Carter Carburetor manufacturing facility located at 2800 to 2840 North Spring in St. Louis, Missouri (see Attachment A., site location map). Specific elements of this task included developing a Quality Assurance Sampling Plan (QASP); assessment and documentation of site conditions; and the collection and management of soil, wood, concrete, wipe, and dust samples. The data were intended for use in evaluating removal options for the site. Background information concerning this site was obtained from the EPA, the Missouri Department of Natural Resources (MDNR), the City of St. Louis, past and present property owners, and other individuals with knowledge of the site. A report documenting all site activity and summarizing analytical data was requested upon completion of the field work. TAT member (TATM) Joe Davis was assigned as project manager for this task.

BACKGROUND

The Carter Carburetor facility manufactured carburetors and other parts for gasoline- and diesel-powered equipment dating back to the 1930's. Aluminum and zinc were die cast and machined into carburetor components. These components were treated with protective coatings and assembled on site. Materials related to this manufacturing process may have included polymers and resins for coatings and metal-treating solutions containing cyanide, lead, cadmium, chromium, and other metals. Materials relating to the manufacturing equipment included coolants, cutting fluids, lubrication and hydraulic oils, dielectric fluids from transformers, and possibly asbestos-containing materials.

Carter Carburetor and Carter Automotive Products were subsidiaries of ACF Industries, Inc. ACF acquired the site property prior to the 1930's. In the mid-1980's, ACF closed the facility and dismantled most of the equipment. On April 26, 1985, the Land Reutilization Authority of St. Louis (LRA) accepted title to the property from ACF. LRA was informed by ACF that electrical equipment on the site contained polychlorinated biphenyls (PCBs). Investigations conducted by LRA indicated that a large electrical transformer (sub-station #3), located on the roof at the southwest end of the die cast room, had leaked down the wall and onto the floor in the die cast room.

On October 29, 1991, a large portion of the site was sold to George Moore, president of Carter Building, Inc. (CBI). Currently, CBI owns the west portion of the facility and the St. Louis LRA owns the northeastern portion of the facility. The irregularly shaped building does not have a southeast quadrant. CBI is currently leasing portions of the building to other businesses. The south end of the second floor is leased to a plastics company and the north end of the first floor to a metal fabricating company. Caribou Corporation produces windshield washer fluid on the south end of the first floor. A garage in the east central portion of the building is leased to Mac's Automotive Repair. A site sketch plan is presented as Attachment B.

On November 16, 1993, and January 6, 1994, under TDD T07-9310-027B, TAT conducted limited sampling in areas that were known or suspected to be contaminated with PCBs. Samples indicated PCB concentrations as high as 180,000 milligrams per kilogram (mg/kg) in solids found outside the building in the north parking lot and 410,000 micrograms per 100 cubic centimeters ($\mu g/100cm^2$) on surfaces inside of the die cast building. Sediment sampled from an interior floor drain indicated 4,800 mg/kg PCBs. All samples exceed PCB cleanup levels established under the authority of the Toxic Substances Control Act (TSCA, 40 CFR 761).

On March 15-18, 1994, under TDD T07-9403-001, TAT performed sampling activities to collect data to assist in assessing the potential for PCB exposure to personnel currently working at the facility, and to collect data that would further delineate the extent of contamination within the building. TAT collected 62 samples consisting of four ambient air samples, 50 wipe samples, six dust/residue samples, one water sample, and one waste oil sample. All of the samples were analyzed for PCBs. A select number of samples was also analyzed for total metals. Samples indicated PCB concentrations as high as 58 $\mu g/100cm^2$ on surfaces within actively utilized areas of the facility. The highest concentrations of contamination were found in the north and south die cast rooms. PCB concentrations of 3,300 mg/kg were detected in solid residues on abandoned equipment mounting pads in the south die cast room and up to 136,000 $\mu g/100cm^2$ in wipe samples from stained areas of the floor in the north die cast room. These two areas are not currently utilized by site workers. The maximum concentration of PCB detected in an ambient air sample was 0.00011 milligrams per cubic meter (mg/m^3) of Aroclor 1242. This is below the National Institute of Occupational Safety and Health (NIOSH) recommended exposure limit (REL) of 0.001 mg/m^3 and the Occupational Safety and Health Administration (OSHA) exposure limit of 1 mg/m3 (skin) for chlorodiphenyl (42% chlorine). Three of the dust/residue samples that were analyzed for total metals indicated concentrations of lead, arsenic, and cadmium as high as 3,840 mg/kg, 21.0 mg/kg and 40.6 mg/kg, respectively.

During the March 1994 site investigation, TAT discovered that the former manufacturing facility may have used a fire resistant hydraulic fluid in the die cast building operations during the 1970's. This fluid, manufactured by Monsanto Chemical company, was known by the brand name PYDRAUL and may have contained PCBs in the percentage concentration range to provide its fire-resistant qualities. A brass filler inlet, labeled PYDRAUL, is located on the outside wall of the die cast building along Grand Blvd. An underground storage tank located in the north lot outside of the die cast building is also labeled PYDRAUL on the vent pipe. This hydraulic fluid and leaking transformers, are suspected to be the primary sources of PCB contamination within the die cast building and other areas.

On April 28, 1995, TAT accompanied an EPA On-Scene Coordinator (OSC) and LRA representatives on a site tour of the Carter Carburetor facility. It was noted that site conditions within the die cast buildings had deteriorated in the past year. A hole had been cut in the security fence on the north end of the building and a window frame had been removed from the north wall of the north die cast building permitting unrestricted access to the interior of the facility (this was evident from beverage cans and debris found inside the building). It was further noted that the roof was collapsing in several areas. This allowed rain water to enter the die cast rooms and pool on the floor. These conditions could allow PCBs to migrate off site through pedestrian traffic trespassing on the site, as well as through stormwater runoff.

On June 21, 1995, TATM Joe Davis drafted a Quality Assurance Sampling Plan (QASP) specifying the current sampling events at the former Carter Carburetor facility. The primary objective of the QASP was to further delineate PCB contamination in concrete and structural members within the die cast building. The second objective was to provide analytical data for the development of disposal options and associated cost estimates for materials that may be removed from the building during site remediation activities. Four potential waste streams at the site were considered in the QASP. These included structural steel from the roof trusses, wood from the roof and other porous materials, concrete and brick materials from the floors and walls, and mechanical systems equipment still present in the building. This last group includes plumbing, electrical conduit, ventilation ducts, and other miscellaneous materials that may be contaminated.

In addition to the afore mentioned building materials, subsurface soils below the concrete floors inside the die cast building and around underground storage tanks (USTs) located beneath the north parking lot were also proposed for sampling. These USTs were suspected of having contained the PCB-containing hydraulic fluid, PYDRAUL.

PCB-contaminated materials exposed to high temperature environments, such as furnaces and incinerators, can undergo thermal alteration into other chlorinated organic compounds including furans and dioxins (see reference 3.). Sampling for furans and dioxins was, therefore, planned at locations where thermal alteration may have occurred.

One of the concerns at this site is PCB contamination of demolition materials related to possible future removal activities. The Toxic Substances Control Act (TSCA) cleanup criteria for PCBs when human exposure is possible is 10 $\mu g/100cm^2$ for surface contamination. The TSCA cleanup criteria for PCBs in soil is 10 mg/kg for areas with nonrestricted access. Some of the samples collected under this activity will be compared to the EPA-established action level for residential soils of 1 nanogram per gram ng/g (or ppb) of 2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD).

The EPA/EP&R branch has submitted to the St. Louis LRA an action memorandum that describes the further actions that the LRA will need to perform at the site. These actions may include the demolition and disposal of contaminated materials within the die cast building. The data collected will assist the agency in the decision-making process as it assesses the risks associated with future land use and cleanup options.

Site Activities

On June 26, 1995, TATMs Dave Kinroth, Joe Parish, Joe Davis, Randy Schademann, and Buck Brooks met with EPA OSC Don Hamera to implement sampling activities at the Carter Carburetor facility. Sampling was conducted under EPA activity number GZ1JJ on June 26 and 27. The following media groups were sampled:

<u>Wipe Samples</u>

To investigate the possibility of PCB contamination on the surfaces of the steel roof trusses and mechanical equipment within the ceiling of the die cast building, four wipe samples (GZ1JJ001 - 004), using 3-by 3-inch hexane-soaked gauze pads and $100cm^2$ templates, were collected from metal surfaces in both the north and south die cast rooms, following procedures in EPA/ERT Standard Operating Procedure (SOP) #2011. An additional PCB wipe sample (005) was collected from a rented concrete-coring drill to verify decontamination procedures. Each wipe sample was packed into a separate 4-ounce jar with a Teflon-lined lid, and was labeled and stored on ice in coolers at 4°C until delivered to the EPA laboratory.

Concrete Samples

To determine the average thickness of the concrete floor and the PCB concentrations of the concrete within the die cast building, the floor was sampled with a concrete coring saw with a 3-inch diameter coring bit through the complete thickness of the floor. Four concrete cores were drilled from the die cast building floor (two from each half of the building) at areas of observed staining on the floor. These represented samples 010 through 015, as core number 2 was divided into three samples. A red stain, that appeared to have penetrated about one to two inches through the surface of the cores, was observed in cores number 2 and 4 (samples 011 and 014). The core samples were split using a hammer and chisel into separate horizons of interest. Each horizon was triple bagged and crushed with a hammer until all the pieces were less than 3/8 inch. The samples were then packaged for PCB analysis. The coring bit was decontaminated with an Alconox wash and water rinse between samples, to minimize the potential of cross contamination. All samples were collected in 8-ounce jars with Teflon-lined lids, labeled and stored on ice in coolers at 4°C. All holes drilled through the floor were filled and patched with premixed concrete.

Wood Samples

To investigate the possibility that PCB contamination may be present on or in the wooden roof and truss structures, the wood roof was sampled in four locations in the die cast building (samples 018-021). An electric hand drill, with a 1-inch diameter flat spade bit was used to drill one-eighth of an inch into the wood at several points. The chips and shavings were collected from these points to produce the samples. Two wood chip samples were collected from each half of the die cast building. The drill bit was decontaminated between samples. The samples were collected in plastic bags and transferred into 8-ounce jars with Teflon-lined lids, labeled, and stored on ice in coolers at 4° C.

Soil Samples

Soil samples 016 and 017 were collected by slide hammer and split-spoon sample tubes from 3 to 12 inches through concrete core holes #3 and #2, respectively, to determine if PCB contamination had migrated into the subsoil beneath the die cast building.

A Geoprobe hydraulic sampling system was used in accordance with SOP #2230.3A to collect subsurface soil samples from around and below two USTs located in the parking lot north of the die cast building. One sample point was located at each end and on both sides of the UST area. At each sample point, a sample was collected at 6 - 12 inches, 4 - 6 feet, and 10 - 12 feet below the surface for a total of 12 samples. To reduce the number of subsurface soil samples to be submitted to the laboratory, immunoassay test kits were used on site to screen for PCBs in soil samples. All soil samples around the USTs indicated less then 5 parts per million (ppm) of PCBs (field screening results are included in Attachment D). Five of the samples were submitted to the lab for confirmation (samples 025 - 029). Sample 025 was also analyzed for total metals in addition to PCBs.

One composite sediment sample, 030, was collected from along a transect running east to west along the drainage way near the center of the north parking lot.

Soil samples 031 and 032 were collected from 6 to 12 inches and 12 to 18 inches, respectively, below the the asphalt pavement in the north parking lot. These samples were collected with the Geoprobe from a stained area near the outside electrical sub-station transformer #4. Sample 031 was also analyzed for total metals in addition to PCBs.

All splitspoon and Geoprobe sampling equipment was decontaminated between samples. All soil samples were homogenized in aluminum pie pans, packaged in 8-ounce jars with Teflon-lined lids, labeled and stored on ice in coolers at 4°C.

All decontamination solution that was generated during assessment activities was sealed in a 55-gallon drum and left on site.

A sample of the decontamination solution generated on site was collected and submitted as sample 024 for PCB analysis.

Dioxins and Furans

Four composite dust samples were collected from locations within the die cast rooms and portions of the CBI property using disposable brooms and dust pans. These dust samples were analyzed for dioxins and furans. Two dust samples, 049 and 051, were collected from the floor along the exterior of the pump room located within the CBI warehouse areas (049 north, and 051 south of the pump room). One sample, 050, was collected from the floor inside of the metal fabrication shop area near the door leading into the vacant CBI warehouse area, and one dust sample, 048, was collected along the center of the north die cast room.

One composite solid sample, 047, was collected from the inside of the vent duct near the furnace located in the east side of the south die cast room. This sample was also analyzed for dioxins and furans.

A summary of all samples collected during the June 26 and 27 sampling activity is included in Table 1.

TABLE 1

JUNE 26-27

SAMPLE #	MEDIA	LOCATION
GZ1JJ001	wipe	North half of north die cast room (DCR), inside blower vent 100 feet from west end.
GZ1JJ002	wipe	North DCR, from pipe at catwalk on east end
GZ1JJ003	wipe	South DCR, second overhead vent louver set from west end of building.
GZ1JJ004	wipe	South DCR, from overhead steel I-beam, center line of room near furnace at east end of bldg.
GZ1JJ005	wipe	Concrete core drill, post decon verification
GZ1JJ010	concrete	Core #1, top 1 inch, from SW corner of south DCR at stained area below leaking sub-station #3 (visible red stain in top 1/2 inch)
GZ1JJ011	concrete	Core #2, top 1 inch, from south DCR, third equipment mounting pad from west end (visible red stain in the top two inches)
GZ1JJ012	concrete	Core #2, 1-2 inches, same location as sample 011.
GZ1JJ013	concrete	Core #2, 2-3 inches, same location as sample 011.
GZ1JJ014	concrete	Core #3, top 1 inch, from north DCR, stained area on floor 50 feet from west end (visible red stain in the top inch)
GZ1JJ015	concrete	Core #4, top 1 inch, north DCR, center of south half, 120 feet from west end. (visible red stain in the top 1/2 inch)
GZ1JJ016	soil	3-12 inches below concrete floor at concrete core number 3.
GZ1JJ017	soil	4-12 inches below concrete floor at concrete core number 2.
GZ1JJ018	wood	From roof trusses, south DCR, south wall 60 feet from west end of bldg.
GZ1JJ019	wood	From roof trusses, south DCR, north wall 120 feet from west end of bldg.

TABLE 1 (CONTINUED)

JUNE 26-27

SAMPLE #	MEDIA	LOCATION
GZ1JJ020	wood	From roof trusses, north DCR, north wall 65 feet from west end of bldg.
GZ1JJ021	wood	From roof trusses, north DCR, NE corner at catwalk.
GZ1JJ024	water	Decon water verification
GZ1JJ025	soil	Subsurface, UST area-east, 6-12 inches below asphalt
GZ1JJ026	soil	Subsurface, UST area-south, 4-6 feet below asphalt.
GZ1JJ027	soil	Subsurface, UST area-west, 10-12 feet below asphalt.
GZ1JJ028	soil	Subsurface, UST area-north, 6-12 inches below asphalt.
GZ1JJ029	soil	Subsurface, UST area-north, 4-6 feet below asphalt.
GZ1JJ030	soil	Surface sediment from drainage pathway, north lot.
GZ1JJ031	soil	Subsurface, 6-12 inches below asphalt in stained area near transformer substation #4 in north lot.
GZ1JJ032	soil	Subsurface, 12-18 inches below asphalt, same location as sample 031.
GZ1JJ033	soil	Background, 0-2 inches below surface, from the vacant field on the NW corner of Spring St. and Dodier St.
GZ1JJ034	soil	Background, 6-18 inches below surface, same location as sample 033.
GZ1JJ047	solids	South DCR, from vent pipe near large furnace at east side of bldg.
GZ1JJ048	dust	North DCR, five aliquots along center of floor.

TABLE 1 (CONTINUED)

JUNE 26-27

SAMPLE #	MEDIA	LOCATION
GZ1JJ049	dust	From CBI building, six aliquots along east-west line, north of the pump room.
GZ1JJ050	dust	From Marion Tow's metal fabrication shop, six aliquots along a north-south line near the rear door leading into the CBI building.
GZ1JJ051	dust	From CBI building, six aliquots along east-west line, south of pump room.

FOLLOWUP ACTIVITIES

Table 2 presents a summary of samples with PCB concentrations that exceed the Toxic Substances Control Act (TSCA) cleanup criteria of 10 $\mu g/100cm^2$ for wipe samples and 10 milligrams per kilogram (mg/kg) for soil samples. The Analysis Request Report for the sampling event is presented as Attachment D.

TABLE 2

Sample #	AROCLOR 1242	AROCLOR 1248	AROCLOR 1254	AROCLOR 1260
GZ1JJ001	--	1,680 $\mu g/100cm^2$	--	--
GZ1JJ002	--	444 $\mu g/100cm^2$	302 $\mu g/100cm^2$	--
GZ1JJ003	--	54.4 $\mu g/100cm^2$	39.1 $\mu g/100cm^2$	--
GZ1JJ004	--	366 $\mu g/100cm^2$	102 $\mu g/100cm^2$	--
GZ1JJ010	--	474 mg/kg	--	229 mg/kg
GZ1JJ011	4,060 mg/kg	--	--	--
GZ1JJ012	1,270 mg/kg	--	--	--
GZ1JJ014	5,070 mg/kg	--	--	--
GZ1JJ015	--	6,760 mg/kg	--	--
GZ1JJ018	--	77.0 mg/kg	32.0 mg/kg	--
GZ1JJ019	--	510 mg/kg	--	306 mg/kg
GZ1JJ020	--	21.8 mg/kg	--	--
GZ1JJ021	--	204 mg/kg	91.8 mg/kg	--
GZ1JJ030	--	--	--	415 mg/kg
GZ1JJ031	--	--	--	7,550 mg/kg
GZ1JJ032	--	--	--	52 mg/kg

Two of the five samples, GZ1JJ048 and GZ1JJ049, that were analyzed for dioxins and furans indicated 2,3,7,8 tetrachlorodibenzo-p-dioxin (total equivalents) concentrations of 3.93 μg/kg, and 1.06 μg/kg, respectively. These values were calculated by multiplying each dioxin and furan compound by a toxicity coefficient equivalent to 2,3,7,8-TCDD and summing the total.

Soil samples GZ1JJ025, GZ1JJ031, GZ1JJ033, and GZ1JJ034, which were analyzed for total metals, indicated total lead concentrations of 11 mg/kg, 89 mg/kg, 21,100 mg/kg, and 220 mg/kg, respectively. The OSWER directive 9355.4-02 has established an interim action level of 500 to 1,000 mg/kg total lead in soil. EPA Region VII has typically applied an action level of 500 ppm total lead in soil in residential areas and 1,000 ppm in industrial settings.

The background sample GZ1JJ033 indicated an anomalously high lead concentration of 21,100 mg/kg. Although surface soil throughout the St. Louis area has been shown to have elevated average lead levels, this concentration cannot be explained.

SUMMARY

TAT was tasked by Region VII EPA/EP&R to conduct a site assessment at the former Carter Carburetor manufacturing facility located at 2800 to 2840 North Spring in St. Louis, Missouri. TAT prepared and implemented the QASP to meet the objectives of the site assessment. Twenty-nine samples consisting of five wipe samples, 13 soil samples, one water sample, six concrete core samples, and four wood samples from the roof trusses were collected and analyzed for PCBs. In addition, five dust samples were analyzed for dioxins and furans. Sixteen of the samples had PCB concentrations exceeding cleanup criteria established under the authority of the Toxic Substances Control Act (TSCA). The dust sample collected along the north half of the die cast building indicated 3.93 μg/kg of 2,3,7,8-TCDD total equivalents.

REFERENCES

1) Ecology and Environment, Inc., Technical Assistance Team, February 23, 1994. Site Assessment of the Former Carter Carburetor Manufacturing Facility, TDD T07-9310-037B, submitted to U.S. EPA Region VII Emergency Planning & Response Branch, Kansas City, Kansas.

2) Ecology and Environment, Inc., Technical Assistance Team, June 13, 1994. Site Assessment of the Former Carter Carburetor Manufacturing Facility, TDD T07-9403-001, submitted to U.S. EPA Region VII Emergency Planning & Response Branch, Kansas City, Kansas.

3) Ecology and Environment, Inc., June, 1986. PCB Destruction, Hazmat Technology Design, No. 27, Volume 1, 2.1.1.1

ATTACHMENTS

A: Site Location Map
B: Site Sketch, Floor Plans, Sample Locations
C: QASP
D: Data Transmittals for Sampling Events/Field Screening Results
E: Photographic Record

ANALYSIS REQUEST REPORT VALIDATED DATA

FOR ACTIVITY: GZ1JJ

HAMERA, DON 08/14/95 14:08:34 ALL REAL SAMPLES AND FIELD Q.C

* FINAL REPORT

FY: 95 ACTIVITY: GZ1JJ DESCRIPTION: CARTER CARBURETOR LOCATION: ST. LOUIS MISSOURI

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: L33

LABO DUE DATE IS 8/ 6/95. REPORT DUE DATE IS 8/28/95.

INSPECTION DATE: 6/29/95 ALL SAMPLES RECEIVED DATE: 07/07/95

ALL DATA APPROVED BY LABO DATE: 08/10/95 FINAL REPORT TRANSMITTED DATE: 08/14/95

EXPECTED LABO TURNAROUND TIME IS 30 DAYS EXPECTED REPORT TURNAROUND TIME IS 60 DAYS

ACTUAL LABO TURNAROUND TIME IS 34 DAYS ACTUAL REPORT TURNAROUND TIME IS 46 DAYS

SITE CODE: JJ SITE: CARTER CARBURETOR SITE

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE STATUS	#	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		H	NORTH DIE CASE ROOM - WIPE		1	ST. LOUIS	MISSOURI				06/27/95	09:30	00/00/00	00:00
002		H	NORTH DIE CASE ROOM - WIPE		1	ST. LOUIS	MISSOURI				06/27/95	09:45	00/00/00	00:00
003		H	SOUTH DIE CAST ROOM - WIPE		1	ST. LOUIS	MISSOURI				06/27/95	10:09	00/00/00	00:00
004		H	SOUTH DIE CAST ROOM - WIPE		1	ST. LOUIS	MISSOURI				06/27/95	10:30	00/00/00	00:00
005		H	CONCRETE CORING DRILL - WIPE		1	ST. LOUIS	MISSOURI				06/27/95	07:00	00/00/00	00:00
010		S	SOUTH DIE CAST ROOM - CONCRETE CORE #1		1	ST. LOUIS	MISSOURI				06/26/95	10:30	00/00/00	00:00
011		S	SOUTH DIE CAST ROOM - CONCRETE CORE #2		1	ST. LOUIS	MISSOURI				06/26/95	11:10	00/00/00	00:00
012		S	SOUTH DIE CAST ROOM - CONCRETE CORE #2		1	ST. LOUIS	MISSOURI				06/26/95	11:10	00/00/00	00:00
013		S	SOUTH DIE CAST ROOM - CONCRETE CORE #2		1	ST. LOUIS	MISSOURI				06/26/95	11:10	00/00/00	00:00
014		S	NORTH DIE CAST ROOM - CONCRETE CORE #3		1	ST. LOUIS	MISSOURI				06/26/95	11:45	00/00/00	00:00
015		S	NORTH DIE CAST ROOM - CONCRETE CORE #4		1	ST. LOUIS	MISSOURI				06/26/95	12:05	00/00/00	00:00
016		S	NORTH DIE CAST ROO - CONCRETE		1	ST. LOUIS	MISSOURI				06/26/95	14:45	00/00/00	00:00
017		S	SOUTH DIE CAST ROOM - SOIL		1	ST. LOUIS	MISSOURI				06/26/95	15:10	00/00/00	00:00
018		S	SOUTH DIE CAST ROOM - WOOD CHIPS #1		1	ST. LOUIS	MISSOURI				06/26/95	16:10	00/00/00	00:00
019		S	SOUTH DIE CAST ROOM - WOOD CHIPS #2		1	ST. LOUIS	MISSOURI				06/26/95	16:55	00/00/00	00:00
020		S	NORTH DIE CAST ROOM - WOOD CHIP #3		1	ST. LOUIS	MISSOURI				06/26/95	17:20	00/00/00	00:00
021		S	NORTH DIE CAST ROOM - WOOD CHIP #4		1	ST. LOUIS	MISSOURI				06/26/95	17:35	00/00/00	00:00
024		W	DECON WATER		1	ST. LOUIS	MISSOURI				06/27/95	17:30	00/00/00	00:00
025		S	SUB-SURFACE ESAT UST AREA - SOIL		1	ST. LOUIS	MISSOURI				06/27/95	09:01	00/00/00	00:00
026		S	SOUTH UST AREA - SUB-SURFACE SOIL		1	ST. LOUIS	MISSOURI				06/27/95	09:55	00/00/00	00:00
027		S	WEST UST AREA - SUB-SURFACE SOIL		1	ST. LOUIS	MISSOURI				06/27/95	11:15	00/00/00	00:00
028		S	NORTH UST AREA - SUB-SURFACE SOIL		1	ST. LOUIS	MISSOURI				06/27/95	11:25	00/00/00	00:00
029		S	NORTH UST AREA - SUB-SURFACE SOIL		1	ST. LOUIS	MISSOURI				06/27/95	11:35	00/00/00	00:00

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY- ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
030		S	NORTH LOT DRAINAGE PATHWAY - SEDIMENT	1	ST. LOUIS	MISSOURI				06/27/95	11:50	00/00/00	00:00
031		S	NORTH LOT - SUB-SURFACE SOIL	1	ST. LOUIS	MISSOURI				06/26/95	14:05	00/00/00	00:00
032		S	NORTH LOT - SUB-SURFACE SOIL	1	ST. LOUIS	MISSOURI				06/26/95	14:05	00/00/00	00:00
033		S	BACKGROUND SOIL 0-2"	1	ST. LOUIS	MISSOURI				07/05/95	14:40	00/00/00	00:00
034		S	BACKGROUND SOIL 6-18"	1	ST. LOUIS	MISSOURI				07/05/95	14:45	00/00/00	00:00
047		S	SOUTH DIE CAST ROOM - SOLID	1	ST. LOUIS	MISSOURI				06/27/95	10:59	00/00/00	00:00
048		S	NORTH DIE CAST ROOM - DUST	1	ST. LOUIS	MISSOURI				06/27/95	11:14	00/00/00	00:00
049		S	NORTH PUMP ROOM IN CBI BLDG.-DUST	1	ST. LOUIS	MISSOURI				06/27/95	13:58	00/00/00	00:00
050		S	MARION TOUR'S METAL FAB SHOP - DUST	1	ST. LOUIS	MISSOURI				06/27/95	13:58	00/00/00	00:00
051		S	SOUTH SIDE OF PUMP ROOM IN CBI - DUST	1	ST. LOUIS	MISSOURI				06/27/95	14:17	00/00/00	00:00

EXPLANATION OF CODES AND INFORMATION ON ANALYSIS REQUEST DETAIL REPORT

SAMPLE INFORMATION:

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER (A 3-DIGIT NUMBER WHICH IN COMBINATION WITH THE ACTIVITY NUMBER AND QCC, PROVIDES AN UNIQUE NUMBER FOR EACH SAMPLE FOR IDENTIFICATION PURPOSES)

QCC = QUALITY CONTROL CODE (A ONE-LETTER CODE USED TO DESIGNATE SPECIFIC QC SAMPLES. THIS FIELD WILL BE BLANK FOR ALL NON-QC OR ACTUAL SAMPLES):

- B = CAL INCREASED CONCENTRATION FOR A LAB SPIKED DUP SAMPLE
- D = MEASURED VALUE FOR FIELD DUPLICATE SAMPLE
- F = MEASURED VALUE FOR FIELD BLANK
- G = MEASURED VALUE FOR METHOD STANDARD
- H = TRUE VALUE FOR METHOD STANDARD
- K = CAL INCREASED CONCENTRATION FOR FIELD SPIKED DUP SAMPLE
- L = MEASURED VALUE FOR A LAB DUPLICATE SAMPLE
- M = MEASURED VALUE FOR LAB BLANK
- N = MEASURED CONCENTRATION OF FIELD SPIKED DUPLICATE
- P = MEASURED VALUE FOR PERFORMANCE STANDARD
- R = CAL INCREASED CONCENTRATION RESULTING FROM LAB SPIKE
- S = MEASURED CONCENTRATION OF LAB SPIKED SAMPLE
- T = TRUE VALUE OF PERFORMANCE STANDARD
- W = MEASURED CONCENTRATION OF LAB SPIKED DUPLICATE
- Y = MEASURED CONCENTRATION OF FIELD SPIKED SAMPLE
- Z = CAL INCREASED CONCENTRATION RESULTING FROM FIELD SPIKE
- 1 = MEASURED VALUE OF FIRST SPIKED REPLICATE
- 2 = MEASURED VALUE OF SECOND SPIKED REPLICATE
- 3 = MEASURED VALUE OF THIRD SPIKED REPLICATE
- 4 = MEASURED VALUE OF FOURTH SPIKED REPLICATE
- 5 = MEASURED VALUE OF FIFTH SPIKED REPLICATE
- 6 = MEASURED VALUE OF SIXTH SPIKED REPLICATE
- 7 = MEASURED VALUE OF SEVENTH SPIKED REPLICATE

M = MEDIA CODE (A ONE-LETTER CODE DESIGNATING THE MEDIA OF THE SAMPLE):

- A = AIR   H = HAZARDOUS WASTE/OTHER
- S = SOLID (SOIL, SEDIMENT, SLUDGE)
- T = TISSUE (PLANT & ANIMAL)
- W = WATER (GROUND WATER, SURFACE WATER, WASTE WATER, DRINKING WATER)

DESCRIPTION = A SHORT DESCRIPTION OF THE LOCATION WHERE SAMPLE WAS COLLECTED

AIRS/STORET LOC. NO. = THE SPECIFIC LOCATION ID NUMBER OF EITHER OF THESE NATIONAL DATABASE SYSTEMS, AS APPROPRIATE

DATE/TIME INFORMATION = SPECIFIC INFORMATION REGARDING WHEN THE SAMPLE WAS COLLECTED

- BEG. DATE = DATE SAMPLING WAS STARTED
- BEG. TIME = TIME SAMPLING WAS STARTED
- END DATE = DATE SAMPLING WAS COMPLETED
- END TIME = TIME SAMPLING WAS COMPLETED

NOTE: A GRAB SAMPLE WILL CONTAIN ONLY BEG. DATE/TIME
A TIMED COMPOSITE SAMPLE WILL CONTAIN BOTH BEG AND END DATE/TIME TO DESIGNATE DURATION OF SAMPLE COLLECTION

OTHER CODES

- V = VALIDATED

ANALYTICAL RESULTS/MEASUREMENTS INFORMATION:

COMPOUND = MGP (MEDIA-GROUP-PARAMETER) CODE AND NAME OF THE MEASURED CONSTITUENT OR CHARACTERISTIC OF EACH SAMPLE

UNITS = SPECIFIC UNITS IN WHICH RESULTS ARE REPORTED:

- C = CENTIGRADE (CELSIUS) DEGREES
- CFS = CUBIC FEET PER SECOND
- GPM = GALLONS PER MINUTE
- IN = INCHES
- I.D. = SPECIES IDENTIFICATION
- KG = KILOGRAM
- L = LITER
- LB = POUNDS
- MG = MILLIGRAMS (1 X 10-3 GRAMS)
- MGD = MILLION GALLONS PER DAY
- MPH = MILES PER HOUR
- MV = MILLIVOLT
- M/F = MALE/FEMALE
- M2 = SQUARE METER
- M3 = CUBIC METER
- NA = NOT APPLICABLE
- NG = NANOGRAMS (1 X 10-9 GRAMS)
- NTU = NEPHELOMETRIC TURBIDITY UNITS
- PC/L = PICO (1 X 10-12) CURRIES PER LITER
- PG = PICOGRAMS (1 X 10-12 GRAMS)
- P/CM2 = PICOGRAMS PER SQUARE CENTIMETER
- SCM = STANDARD CUBIC METER (1 ATM, 25 C)
- SQ FT = SQUARE FEET
- SU = STANDARD UNITS (PH)
- UG = MICROGRAMS (1 X 10-6 GRAMS)
- UMHOS = MICROMHOS/CM (CONDUCTIVITY UNITS)
- U/CC2 = MICROGRAMS PER 100 SQUARE CENTIMETERS
- U/CM2 = MICROGRAMS PER SQUARE CENTIMETER
- 1000G = 1000 GALLONS
- +/- = POSITIVE/NEGATIVE
- # = NUMBER

DATA QUALIFIERS = SPECIFIC CODES USED IN CONJUNCTION WITH DATA VALUES TO PROVIDE ADDITIONAL INFORMATION ON THE REPORTED RESULTS, OR USED TO EXPLAIN THE ABSENCE OF A SPECIFIC VALUE:

- BLANK = IF FIELD IS BLANK, NO REMARKS OR QUALIFIERS ARE PERTINENT. FOR FINAL REPORTED DATA, THIS MEANS THAT THE VALUES HAVE BEEN REVIEWED AND FOUND TO BE ACCEPTABLE FOR USE.
- I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
- J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES
- K = ACTUAL VALUE OF SAMPLE IS < VALUE REPORTED
- L = ACTUAL VALUE OF SAMPLE IS > VALUE REPORTED
- M = DETECTED BUT BELOW THE LEVEL OF REPORTED VALUE FOR ACCURATE QUANTIFICATION
- O = PARAMETER NOT ANALYZED
- U = ACTUAL VALUE OF SAMPLE IS < THE MEASUREMENT DETECTION LIMIT (REPORTED VALUE)

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 5-GZ1JJ VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	1.00	K	0.100	K	0.010	K	0.100	K	0.010	K
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	2.00	K	0.200	K	0.020	K	0.200	K	0.020	K
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	1.00	K	0.100	K	0.010	K	0.100	K	0.010	K
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	1.00	K	0.100	K	0.010	K	0.100	K	0.010	K
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	16.8		4.44		0.544		3.66		0.010	K
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	1.00	K	3.02		0.391		1.02		0.010	K
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	1.00	K	0.100	K	0.010	K	0.100	K	0.010	K
ZZ01 SAMPLE NUMBER	NA	001		002		003		004		005	
ZZ02 ACTIVITY CODE	NA	GZ1JJ		GZ1JJ		GZ1JJ		GZ1JJ		GZ1JJ	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 5-GZ1JJ   VALIDATED DATA

COMPOUND	UNITS	010		011		012		013		014	
SP17 PCB-AROCLOR 1016	UG/KG	3470	K	37900	K	37500	K	35.5	K	36300	K
SP18 PCB-AROCLOR 1221	UG/KG	7050	K	77000	K	76100	K	72.0	K	73600	K
SP19 PCB-AROCLOR 1232	UG/KG	3470	K	37900	K	37500	K	35.5	K	36300	K
SP20 PCB-AROCLOR 1242	UG/KG	3470	K	4060000		1270000		35.5	K	5070000	
SP21 PCB-AROCLOR 1248	UG/KG	474000		37900	K	37500	K	3960		36300	K
SP22 PCB-AROCLOR 1254	UG/KG	3470	K	37900	K	37500	K	35.5	K	36300	K
SP23 PCB-AROCLOR 1260	UG/KG	229000		37900	K	37500	K	35.5	K	36300	K
ZZ01 SAMPLE NUMBER	NA	010		011		012		013		014	
ZZ02 ACTIVITY CODE	NA	GZ1JJ		GZ1JJ		GZ1JJ		GZ1JJ		GZ1JJ	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 5-GZ1JJ VALIDATED DATA

COMPOUND	UNITS	015		016		017		018		019	
SM01 SILVER, TOTAL, BY ICAP	MG/KG					2.49	U				
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG					13300					
SM04 BARIUM, TOTAL, BY ICAP	MG/KG					182					
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG					1.25	U				
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG					1.25	U				
SM07 COBALT, TOTAL, BY ICAP	MG/KG					8.62					
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG					17.0					
SM09 COPPER, TOTAL, BY ICAP	MG/KG					18.7					
SM10 IRON, TOTAL, BY ICAP	MG/KG					22000					
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG					485					
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG					2.49	U				
SM13 NICKEL, TOTAL, BY ICAP	MG/KG					20.1					
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG					12.5	U				
SM17 TITANIUM, TOTAL, BY ICAP	MG/KG					274					
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG					33.6					
SM20 ZINC, TOTAL, BY ICAP	MG/KG					62.1					
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG					3460					
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG					2500					
SM23 SODIUM, TOTAL, BY ICAP	MG/KG					78.9					
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG					1230					
SM27 ARSENIC, TOTAL, BY AA	MG/KG					9.04					
SM30 LEAD, TOTAL, BY AA	MG/KG					18.5					
SM32 SELENIUM, TOTAL, BY AA	MG/KG					1.25	U				
SM33 THALLIUM, TOTAL, BY AA	MG/KG					1.25	U				
SP17 PCB-AROCLOR 1016	UG/KG	702000	K	40.2	K	42.3	K	971	K	5000	K
SP18 PCB-AROCLOR 1221	UG/KG	1420000	K	81.7	K	85.9	K	1971	K	10200	K

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 5-GZ1JJ   VALIDATED DATA

COMPOUND	UNITS	015	016	017	018	019
SP19 PCB-AROCLOR 1232	UG/KG	702000 K	40.2 K	42.3 K	971 K	5000 K
SP20 PCB-AROCLOR 1242	UG/KG	702000 K	40.2 K	42.3 K	971 K	5000 K
SP21 PCB-AROCLOR 1248	UG/KG	6760000	123	42.3 K	77000	510000
SP22 PCB-AROCLOR 1254	UG/KG	702000 K	40.2 K	42.3 K	32100	5000 K
SP23 PCB-AROCLOR 1260	UG/KG	702000 K	40.2 K	42.3 K	971 K	306000
ZZ01 SAMPLE NUMBER	NA	015	016	017	018	019
ZZ02 ACTIVITY CODE	NA	GZ1JJ	GZ1JJ	GZ1JJ	GZ1JJ	GZ1JJ

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 5-GZ1JJ VALIDATED DATA

COMPOUND	UNITS	020	021	024	025	026
SM01 SILVER, TOTAL, BY ICAP	MG/KG				2.09 U	
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG				2420	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG				16.4	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG				1.05 U	
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG				1.05 U	
SM07 COBALT, TOTAL, BY ICAP	MG/KG				2.36	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG				6.76	
SM09 COPPER, TOTAL, BY ICAP	MG/KG				6.97	
SM10 IRON, TOTAL, BY ICAP	MG/KG				3110	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG				62.4	
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG				2.09 U	
SM13 NICKEL, TOTAL, BY ICAP	MG/KG				6.19	
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG				10.5 U	
SM17 TITANIUM, TOTAL, BY ICAP	MG/KG				10.6	
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG				8.35	
SM20 ZINC, TOTAL, BY ICAP	MG/KG				58.4	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG				208000	
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG				21600	
SM23 SODIUM, TOTAL, BY ICAP	MG/KG				200	
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG				939	
SM27 ARSENIC, TOTAL, BY AA	MG/KG				1.62	
SM30 LEAD, TOTAL, BY AA	MG/KG				11.0	
SM32 SELENIUM, TOTAL, BY AA	MG/KG				1.07 U	
SM33 THALLIUM, TOTAL, BY AA	MG/KG				1.07 U	
SP17 PCB-AROCLOR 1016	UG/KG	363 K	3630 K		35.1 K	34.4 K
SP18 PCB-AROCLOR 1221	UG/KG	736 K	7360 K		71.3 K	69.8 K

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 5-GZ1JJ VALIDATED DATA

COMPOUND	UNITS	020		021		024		025		026	
SP19 PCB-AROCLOR 1232	UG/KG	363	K	3630	K			35.1	K	34.4	K
SP20 PCB-AROCLOR 1242	UG/KG	363	K	3630	K			35.1	K	34.4	K
SP21 PCB-AROCLOR 1248	UG/KG	21800		204000				35.1	K	34.4	K
SP22 PCB-AROCLOR 1254	UG/KG	7600		91800				35.1	K	34.4	K
SP23 PCB-AROCLOR 1260	UG/KG	363	K	3630	K			392		35.8	
WP17 PCB-AROCLOR 1016	UG/L					10.0	K				
WP18 PCB-AROCLOR 1221	UG/L					20.0	K				
WP19 PCB-AROCLOR 1232	UG/L					10.0	K				
WP20 PCB-AROCLOR 1242	UG/L					10.0	K				
WP21 PCB-AROCLOR 1248	UG/L					88.0					
WP22 PCB-AROCLOR 1254	UG/L					10.0	K				
WP23 PCB-AROCLOR 1260	UG/L					241					
ZZ01 SAMPLE NUMBER	NA	020		021		024		025		026	
ZZ02 ACTIVITY CODE	NA	GZ1JJ		GZ1JJ		GZ1JJ		GZ1JJ		GZ1JJ	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 5-GZ1JJ   VALIDATED DATA

COMPOUND	UNITS	027		028		029		030		031	
SM01 SILVER, TOTAL, BY ICAP	MG/KG									2.26	U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG									9780	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG									142	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG									1.13	U
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG									3.48	
SM07 COBALT, TOTAL, BY ICAP	MG/KG									7.77	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG									12.8	
SM09 COPPER, TOTAL, BY ICAP	MG/KG									18.3	
SM10 IRON, TOTAL, BY ICAP	MG/KG									15900	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG									644	
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG									2.26	U
SM13 NICKEL, TOTAL, BY ICAP	MG/KG									14.6	
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG									11.3	U
SM17 TITANIUM, TOTAL, BY ICAP	MG/KG									276	
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG									27.1	
SM20 ZINC, TOTAL, BY ICAP	MG/KG									103	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG									29400	
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG									5670	
SM23 SODIUM, TOTAL, BY ICAP	MG/KG									81.4	
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG									1260	
SM27 ARSENIC, TOTAL, BY AA	MG/KG									5.69	
SM30 LEAD, TOTAL, BY AA	MG/KG									89.0	
SM32 SELENIUM, TOTAL, BY AA	MG/KG									1.14	U
SM33 THALLIUM, TOTAL, BY AA	MG/KG									1.14	U
SP17 PCB-AROCLOR 1016	UG/KG	41.8	K	34.7	K	37.9	K	3750	K	40200	K
SP18 PCB-AROCLOR 1221	UG/KG	84.8	K	70.5	K	77.0	K	7610	K	81700	K

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 5-GZ1JJ   VALIDATED D[illegible]

COMPOUND	UNITS	027	028	029	030	031
SP19 PCB-AROCLOR 1232	UG/KG	41.8 K	34.7 K	37.9 K	3750 K	40200 K
SP20 PCB-AROCLOR 1242	UG/KG	41.8 K	34.7 K	37.9 K	3750 K	40200 K
SP21 PCB-AROCLOR 1248	UG/KG	41.8 K	34.7 K	37.9 K	3750 K	40200 K
SP22 PCB-AROCLOR 1254	UG/KG	41.8 K	34.7 K	37.9 K	3750 K	40200 K
SP23 PCB-AROCLOR 1260	UG/KG	41.8 K	2210	37.9 K	415000	7,550,000
ZZ01 SAMPLE NUMBER	NA	027	028	029	030	031
ZZ02 ACTIVITY CODE	NA	GZ1JJ	GZ1JJ	GZ1JJ	GZ1JJ	GZ1JJ

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 5-GZ1JJ VALIDATED DATA

COMPOUND	UNITS	032	033	034	047	048
SD02 DIOXIN, 2378-TETRACHLORODIBENZO-P, RAPI	NG/GM				0.0217 U	0.043
SD04 DIOXIN, 2378-TCD-TOTAL EQUIVALENTS	UG/KG				0.188	3.93
SD10 DIOXIN, 1234678-HEPTACHLORODIBENZO-P-	NG/KG				283	1500
SD22 DIOXIN, OCTACHLORODIBENZO-P	NG/KG				2630	15500
SD23 FURAN, 2378-TETRACHLORODIBENZO	NG/KG				581	3250
SD31 FURAN, OCTACHLORODIBENZO	NG/KG				283	12100
SD32 FURAN, 12378-PENTACHLORODIBENZO	NG/KG				120	1250
SD34 FURAN, 123478-HEXACHLORODIBENZO	NG/KG				168	6360
SD35 FURAN, 123678-HEXACHLORODIBENZO	NG/KG				109 U	1390
SD36 FURAN, 123789-HEXACHLORODIBENZO	NG/KG				109 U	112
SD37 FURAN, 234678-HEXACHLORODIBENZO	NG/KG				109 U	597
SD38 FURAN, 1234678-HEPTACHLORODIBENZO	NG/KG				163	4210
SD39 FURAN, 1234789-HEPTACHLORODIBENZO	NG/KG				109 U	1760
SD40 DIOXIN, 12378-PENTACHLORODIBENZO-P	NG/KG				109 U	105 U
SD41 DIOXIN, 123478-HEXACHLORODIBENZO-P	NG/KG				109 U	105 U
SD42 DIOXIN, 123678-HEXACHLORODIBENZO-P	NG/KG				109 U	116
SD43 DIOXIN, 123789-HEXACHLORODIBENZO-P	NG/KG				109 U	105 U
SD45 FURAN, 23478-PENTACHLORODIBENZO	NG/KG				201	5080
SM01 SILVER, TOTAL, BY ICAP	MG/KG		2.27 U	2.53 U		
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG		8660	8710		
SM04 BARIUM, TOTAL, BY ICAP	MG/KG		1940	243		
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG		1.13 U	1.27 U		
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG		12.8	3.32		
SM07 COBALT, TOTAL, BY ICAP	MG/KG		12.5	8.59		
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG		39.3	13.3		
SM09 COPPER, TOTAL, BY ICAP	MG/KG		162	18.7		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 5-GZ1JJ VALIDATED DATA

COMPOUND	UNITS	032		033		034		047	048
SM10 IRON, TOTAL, BY ICAP	MG/KG			39200		15200			
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG			735		1020			
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG			7.27		2.53	U		
SM13 NICKEL, TOTAL, BY ICAP	MG/KG			28.2		18.7			
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG			11.3	U	12.7	U		
SM17 TITANIUM, TOTAL, BY ICAP	MG/KG			480		341			
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG			37.7		26.2			
SM20 ZINC, TOTAL, BY ICAP	MG/KG			2020		114			
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG			32200		3350			
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG			4440		1650			
SM23 SODIUM, TOTAL, BY ICAP	MG/KG			235		165			
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG			971		1210			
SM27 ARSENIC, TOTAL, BY AA	MG/KG			15.8		4.76			
SM30 LEAD, TOTAL, BY AA	MG/KG			INVALID	I	220			
SM32 SELENIUM, TOTAL, BY AA	MG/KG			1.13	U	1.29	U		
SM33 THALLIUM, TOTAL, BY AA	MG/KG			1.13	U	1.29	U		
SP17 PCB-AROCLOR 1016	UG/KG	355	K	42.3	K	37.9	K		
SP18 PCB-AROCLOR 1221	UG/KG	720	K	85.9	K	77.0	K		
SP19 PCB-AROCLOR 1232	UG/KG	355	K	42.3	K	37.9	K		
SP20 PCB-AROCLOR 1242	UG/KG	355	K	42.3	K	37.9	K		
SP21 PCB-AROCLOR 1248	UG/KG	355	K	176		37.9	K		
SP22 PCB-AROCLOR 1254	UG/KG	355	K	42.3	K	37.9	K		
SP23 PCB-AROCLOR 1260	UG/KG	52000		111		37.9	K		
ZZ01 SAMPLE NUMBER	NA	032		033		034		047	048
ZZ02 ACTIVITY CODE	NA	GZ1JJ		GZ1JJ		GZ1JJ		GZ1JJ	GZ1JJ

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 5-GZ1JJ   VALIDATED D...

COMPOUND	UNITS	049		050		051			
SD02 DIOXIN, 2378-TETRACHLORODIBENZO-P, RAPI	NG/GM	0.0158		0.0102	U	0.0149			
SD04 DIOXIN, 2378-TCD-TOTAL EQUIVALENTS	UG/KG	1.06		0.0641		0.350			
SD10 DIOXIN, 1234678-HEPTACHLORODIBENZO-P-	NG/KG	1670		254		2380			
SD22 DIOXIN, OCTACHLORODIBENZO-P	NG/KG	15800		2030		26800			
SD23 FURAN, 2378-TETRACHLORODIBENZO	NG/KG	598		73.0		222			
SD31 FURAN, OCTACHLORODIBENZO	NG/KG	4970		356		3370			
SD32 FURAN, 12378-PENTACHLORODIBENZO	NG/KG	250		51.0	U	66.4			
SD34 FURAN, 123478-HEXACHLORODIBENZO	NG/KG	1800		76.0		880			
SD35 FURAN, 123678-HEXACHLORODIBENZO	NG/KG	370		51.0	U	182			
SD36 FURAN, 123789-HEXACHLORODIBENZO	NG/KG	51.5	U	51.0	U	56.8	U		
SD37 FURAN, 234678-HEXACHLORODIBENZO	NG/KG	167		51.0	U	119			
SD38 FURAN, 1234678-HEPTACHLORODIBENZO	NG/KG	1750		426		1240			
SD39 FURAN, 1234789-HEPTACHLORODIBENZO	NG/KG	560		51.0	U	327			
SD40 DIOXIN, 12378-PENTACHLORODIBENZO-P	NG/KG	51.5	U	51.0	U	56.8	U		
SD41 DIOXIN, 123478-HEXACHLORODIBENZO-P	NG/KG	51.5	U	51.0	U	56.8	U		
SD42 DIOXIN, 123678-HEXACHLORODIBENZO-P	NG/KG	84.2		51.0	U	86.7			
SD43 DIOXIN, 123789-HEXACHLORODIBENZO-P	NG/KG	60.3		51.0	U	90.7			
SD45 FURAN, 23478-PENTACHLORODIBENZO	NG/KG	1320		80.1		209			
ZZ01 SAMPLE NUMBER	NA	049		050		051			
ZZ02 ACTIVITY CODE	NA	GZ1JJ		GZ1JJ		GZ1JJ			

VALIDATED DATA

ACTIVITY GZ1JJ CARTER CARBURETOR

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, AIRS, OR ARCHIVE.

CIRCLE ONE: STORET AIRS ARCHIVE

FINAL DATA REPORT APPROVED BY PROJECT LEADER ON 08/14/95 14:08:34 BY Ron McCutcheon 8/14/95

LS. 8

CHEMICAL, PHYSICAL, AND BIOLOGICAL PROPERTIES OF COMPOUNDS PRESENT AT HAZARDOUS WASTE SITES

Final Report

Prepared for:

U.S. Environmental Protection Agency

Prepared by:

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Under Subcontract to:

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Bedford, Massachusetts 01730

September 27, 1985

POLYCHLORINATED BIPHENYLS

Summary

Polychlorinated biphenyls (PCBs) are very persistent in the natural environment and are readily bioaccumulated. In humans, exposure to PCBs has been associated with chloracne, impairment of liver function, a variety of neurobehavioral symptoms, menstrual disorders, minor birth abnormalities, and an increased incidence of cancer. Experimental animals exposed to PCBs experienced an increased incidence of cancer; reproductive problems; neurobehavioral degradation; pathological changes in the liver, stomach, skin, and other organs; and suppression of immunological function. PCBs are often contaminated, and these contaminants may be much more toxic than the PCBs themselves.

Background Information

Polychlorinated biphenyls (PCBs) are complex mixtures of chemicals composed of two connected benzene rings with 1 to 10 chlorine atoms attached. The chemical, physical, and biological properties of these materials depend to a large degree on the amount and location of the chlorine atoms on the two benzene rings of each specific PCB and on the particular mixture of individual chlorobiphenyls that comprise the mixture.

CAS Number: 1336-36-3

Chemical Formula: $C_6H_5Cl_xC_6H_5Cl_x$

IUPAC Name: Specific for each polychlorinated biphenyl

Important Synonyms and Trade Names: PCBs, chlorinated biphenyls, polychlorobiphenyls, Aroclor, Kanechlor, Clophen

Chemical and Physical Properties

Molecular Weight: 189-399*

Boiling Point: 267°C and up*

Melting Point: 54-310°C*

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*Increases with increasing chlorination.

Health Effects

In humans exposed to PCBs (in the workplace or via accidental contamination of food), reported adverse effects include chloracne (a long-lasting, disfiguring skin disease), impairment of liver function, a variety of neurobehavioral and affective symptoms, menstrual disorders, minor birth abnormalities, and probably increased incidence of cancer. Animals experimentally exposed to PCBs have shown most of the same symptoms, as well as impaired reproduction; pathological changes in the liver, stomach, skin, and other organs; and suppression of immunological functions. PCBs are carcinogenic in rats and mice and, in appropriate circumstances, enhance the effects of other carcinogens. Reproductive and neurobiological effects of PCBs have been reported in rhesus monkeys at the lowest dose level tested, 11 μg/kg body weight/day over a period of several months.

Toxicity to Wildlife and Domestic Animals

Polychlorinated biphenyls are bioaccumulated and can be biomagnified. Therefore, their toxicity increases with length of exposure and position of the exposed species on the food chain. The toxicity of the various PCB mixtures is also dependent on their composition. Because of the complexity of PCB toxicity, only general effects will be discussed here.

The 96-hour LC_{50} values for rainbow trout, bluegills, and channel catfish were around 20 mg/liter. The same species exposed for 10 to 20 days had LC_{50} values of about 0.1 mg/liter. Invertebrate species were also adversely affected, with some species having 7-day LC_{50} values as low as 1 μg/liter. In general, juvenile organisms appeared more susceptible to the effects of PCBs than either eggs or adults.

Three primary ways in which PCBs can affect terrestrial wildlife are outright mortality, adversely affecting reproduction, and changing behavior. PCB doses greater than 200 ppm in the diet or 10 mg/kg body weight (bw) caused some mortality in sensitive bird species exposed for several days. Doses around 1,500 ppm (diet) or about 100 mg/kg (bw) caused extensive mortality in these sensitive species. They generally caused some mortality in all species, with the level being dependent on the length of exposure and the particular PCB mixture. Some mammalian species are especially susceptible to PCBs. For example, mink died when fed as little as 5 ppm in the diet (equivalent to less than 1 mg/kg bw/day). PCBs caused lower egg production; deformities; decreased hatchability, growth, and survival; and some eggshell thinning in reproductive studies on chickens fed doses of 20 ppm in the diet (1 mg/kg bw). Mink fed 1 ppm in the diet (0.2 mg/kg bw) had lower reproductive success, and there are indications that an increased incidence

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U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA). 1976. National Conference on Polychlorinated Biphenyls (November 19-21, 1975, Chicago, Illinois). Office of Toxic Substances, Washington, D.C. March 1976. EPA 560/6-75-004

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U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA). 1980. Ambient Water Quality Criteria for Polychlorinated Biphenyls (PCBs). Office of Water Regulations and Standards, Criteria and Standards Division, Washington, D.C. October 1980. EPA 440/5-80-054

U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA). 1984. Health Effects Assessment for Polychlorinated Biphenyls. Environmental Criteria and Assessment Office, Cincinnati, Ohio. September 1984. ECAO-CIN-H004 (Final Draft)

U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA). 1985. Health Assessment Document for Dichloromethane (Methylene Chloride). Office of Health and Environmental Assessment. Washington, D.C. February 1985. EPA 600/8-82/004F

CHLOROFORM

Summary

Chloroform (trichloromethane) is often produced during the chlorination of drinking water and thus is a common drinking water contaminant. It is volatile in surface waters and is not likely to be persistent in the environment. Chloroform caused an increase in kidney epithelial tumors in rats and in hepatocellular carcinomas in mice. In addition, there is suggestive evidence from epidemiological studies that exposure to chloroform and other trihalomethanes is associated with an increased incidence of bladder tumors in humans. Other toxic effects of chloroform include central nervous system depression; eye, skin, and gastrointestinal irritation; and damage to the liver, heart, and kidney.

CAS Number: 67-66-3

Chemical Formula: $CHCl_3$

IUPAC Name: Trichloromethane

Chemical and Physical Properties

Molecular Weight: 119.38

Boiling Point: 61.7°C

Melting Point: -63.5°C

Specific Gravity: 1.4832 at 20°C

Solubility in Water: 8,200 mg/liter at 20°C

Solubility in Organics: Soluble in acetone; miscible with alcohol, ether, benzene, and ligroin

Log Octanol/Water Partition Coefficient: 1.97

Vapor Pressure: 150.5 mm Hg at 20°C

Vapor Density: 4.12

chloroform overdosing can occur and is attributed to ventricular fibrillation. Chloroform anesthesia can produce delayed death as a result of liver necrosis.

Exposure to chloroform by inhalation, intragastric administration, or intraperitoneal injection produces liver and kidney damage in laboratory animals. The oral LD_{50} and inhalation LC_{LO} values for the rat are 908 mg/kg and 39,000 mg/m^3 per 4 hours, respectively (ACGIH 1980).

Toxicity to Wildlife and Domestic Animals

Limited information is available concerning the toxicity of chloroform to organisms exposed at known concentrations (USEPA 1980). Median effect concentrations for two freshwater and one invertebrate species range from 28,900 to 115,000 µg/liter. Twenty-seven day LC_{50} values of 2,030 and 1,240 µg/liter were reported for embryo-larval tests with rainbow trout in water at two levels of hardness. The only reliable result concerning the toxicity of chloroform to saltwater aquatic life is a 96-hour LC_{50} value of 81,500 µg/liter for pink shrimp.

An equilibrium bioconcentration factor of six with a tissue half-life of less than 1 day was determined for the bluegill. Although chloroform is not strongly bioaccumulated, it is thought to be widely distributed in the environment and can be detected in fish, water birds, marine mammals, and various crops.

Regulations and Standards

Ambient Water Quality Criteria (USEPA):

Aquatic Life

The available data are not adequate for establishing criteria.

Human Health

Estimates of the carcinogenic risks associated with lifetime exposure to various concentrations of chloroform in water are:

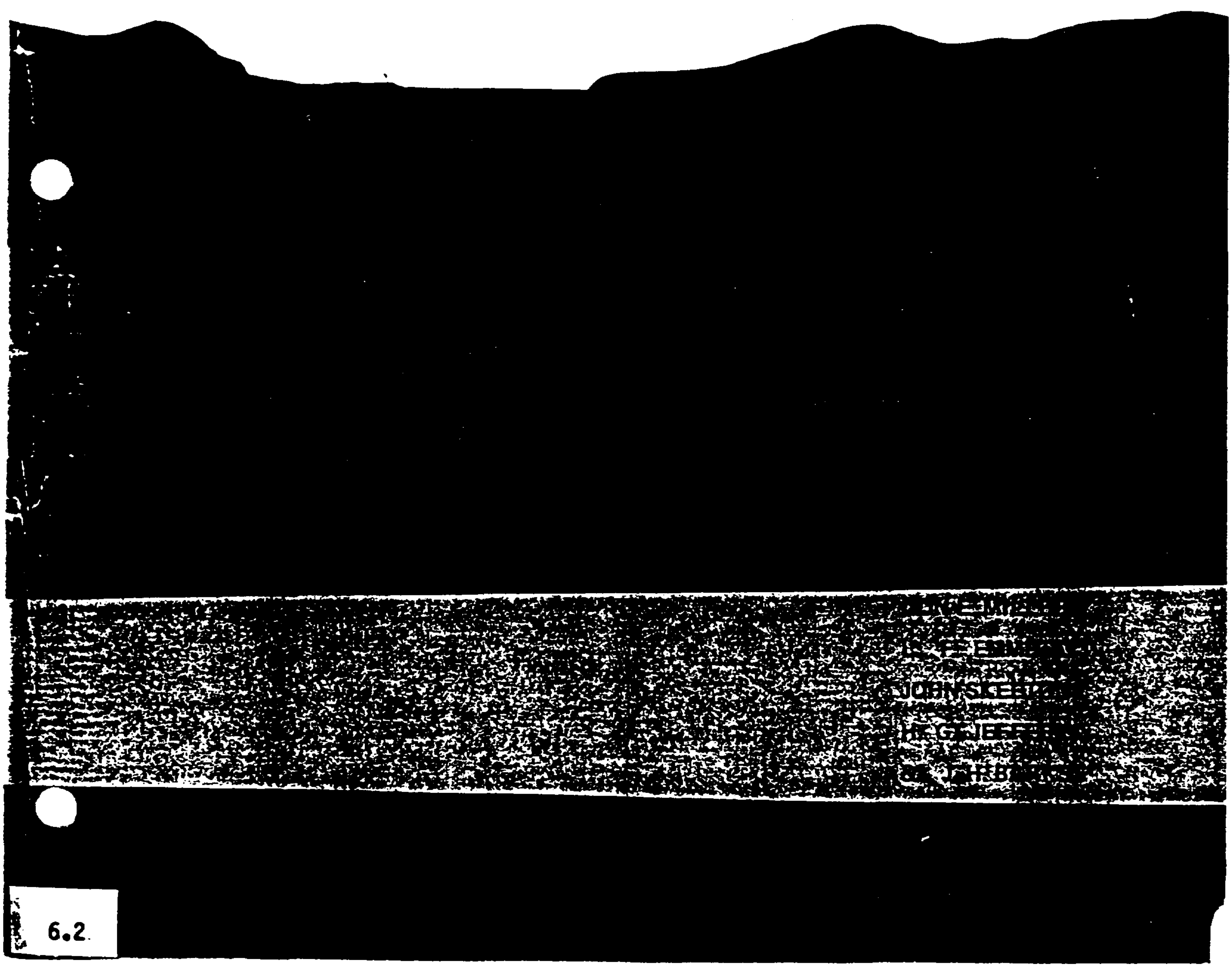
Risk	Concentration
10^{-5}	1.90 µg/liter
10^{-6}	0.19 µg/liter
10^{-7}	0.019 µg/liter

CAG Unit Risk (USEPA): 8.1×10^{-2} $(mg/kg/day)^{-1}$

Ref. 9

WATER RESOURCES

ST. LOUIS AREA MISSOURI



6.2

WELL YIELDS AND AQUIFER CHARACTERISTICS

All bedrock units are locally capable of yielding water in varying amounts to wells. Yields of wells are dependent, of course, on such factors as depth, length and diameter of the open hole; formations penetrated; geographic location (p. 10); structural attitude of the rock; and permeability of the aquifers tapped. Because of the stratigraphic complexity of this area and probable interformational movement of the water, it is difficult to define parameters which describe yield capabilities of individual aquifers. It is possible, however, to use data from wells penetrating various aquifer combinations to arrive at conclusions about the more important water-bearing units in the study area.

A reliable measure of the productivity of a well is its specific capacity. This is the discharge of the well expressed as a rate of yield per unit of drawdown, generally in gallons per minute per foot of drawdown.

Specific capacities and yields of wells penetrating aquifers or groups of aquifers are shown in table 2. Higher specific capacities for wells in bedrock are apparent in the western part of the study area and in the south-central part of Jefferson County because higher-yielding units are penetrated by the wells. On the average, wells penetrating Groups 3 and 4 aquifers (St. Peter Sandstone through the Gunter Member of the lower part of the Gasconade Dolomite) had yields significantly higher (100+gpm) than wells finished in aquifer Groups 1 (Post-Maquoketa) or 2 (Kimmswick-Joachim) which were from 3 to 50 gpm. Many wells started in aquifers in Groups 1 or 2 and finished in aquifers in Groups 3 or 4 had better yields than those actually finished in aquifers in Groups 1 or 2. The yields of wells opened only to aquifers in Group 5 (Eminence-Lamotte) were inconsistent, ranging from less than 10 gpm to as much as 400 gpm.

Wells penetrating the St. Peter Sandstone of Group 3 aquifers, the Roubidoux and Gasconade Formations of Group 4 aquifers and the Potosi Dolomite of Group 5 aquifers consistently had higher yields than wells which did not penetrate these units. Figure 11 shows areas where water in these aquifers (or aquifer groups) was acceptable in quality and should be considered for future development when high-yield groundwater s are needed.

Yields of 500 gpm have been reporte wells in the Meramec River alluvium. In the M River alluvium, a well in the old Weldon Ordnance Plant well field was pumped at a mately 2,600 gpm for 47 hours during an aqu (Emmett and Jeffery, 1968). According to Baker and Durum (1952, p. 48), this we consisted of 13 large-capacity wells on a 3 tract which supplied water from the Missou alluvium at a rate of more than 44 mgd. D exceeding 3,300 gpm has been reported from ir wells in the Mississippi River alluvium.

Specific capacities reported for wells Mississippi, Missouri and Meramec River a are given in table 2. Durations of the tests known in all instances. However, these va serve as an indication of the productivity in the alluvial aquifers.

Generally, high specific capacities inc aquifer with high transmissivity while low capacities indicate an aquifer with a low transr

Two characteristics governing the val aquifer as a source of water are its ability to s to transmit water. These two values can be r by aquifer tests.

For artesian (confined) aquifers, th coefficient may range from 0.00001 to 0.(storage coefficients of water-table aquif from about 0.05 to 0.30.

The coefficients of storage and tran were determined at two sites. These v presented in table 2. The transmissivities a sites are virtually the same but the coeff storage indicate water-table conditions at th Spring site and artesian conditions at Charles site. Available well logs and v measurements indicate that artesian or leak conditions prevail throughout most of the l River alluvium.

Results obtained from these two indicators of the hydrologic characteristi alluvial aquifers. Any large-scale develo groundwater resources should be based on tests.

p. 21

APPLICATION OF REGIONAL DRAFT-STORAGE CURVES

In most cases, proposed reservoir sites are located where long streamflow records are not available. Therefore, the regional draft-storage curves of figure 27 should be utilized in making estimates. The following steps are necessary in making estimates of storage requirements at ungaged sites:

1. Determine the drainage area upstream from the site, using the best available topographic map.

2. Determine average annual runoff for the basin to the nearest inch from figure 24. Use the center of the basin as the point of estimation.

3. Use the regional curves to estimate storage requirements. The estimates will be somewhat conservative; the average chance of the reservoir becoming empty in any year is 2 percent.

4. Where significant urbanization exists, the storage requirements obtained from the regional curves should be computed using adjusted values of mean flows to account for the increased runoff volumes from urbanized areas. Suggestions for these adjustments are presented in the section "Effects of Urbanization on Mean Flows."

RESERVOIR LOSSES

For this report no adjustments have been made to station data or regional curves for reservoir losses due to evaporation, seepage or sedimentation. A detailed discussion of regional adjustments to storage requirements for these losses is presented by Skelton (1968, p. 15-23). This information will be useful in preliminary studies; however, a more detailed analysis will be necessary at the reservoir site prior to construction of major structures.

LIMITATIONS OF DATA

Before station data and regional draft-storage curves are used in project planning, the following limitations should be considered:

1. Regional curves and station data should not be extrapolated beyond the limits shown.

2. Regional curves are not applicable to streams significantly regulated by reservoirs or to the Mississippi and Missouri Rivers.

3. Regional curves should not be used for drainage areas of less than one square mile.

4. In the Ozarks part of the study area (fig. 1), field reconnaissance of potential reservoir sites is necessary to avoid gross underestimation of storage requirements. In this region, there is a possibility that small basins and reaches of some streams may have zones of significant water losses which were not discovered during hydrologic investigations of the region (see table 21). Special studies would be required to define storage requirements in water-loss areas and to determine if reservoirs are structurally feasible.

QUALITY OF SURFACE WATER

The St. Louis area is nearly surrounded by large streams. The Missouri River to the north, the Mississippi River to the east, and the Meramec River to the south make available an almost unlimited supply of surface water. Many of the water-supply and waste-disposal needs of the area are met by these streams. Because of their large flow, these streams are able to assimilate large amounts of wastes. Uses of the water, however, are limited when extensive and costly treatment is needed to obtain the desired quality.

Municipal, industrial, agricultural and other wastes entering streams anywhere in the north-central part of the United States influence the quality of water in the Missouri and Mississippi Rivers in the St. Louis area. Not all of man's activities, however, have caused deterioration of the quality of water in these rivers. For instance, impoundments on the Missouri River main stem and tributaries over the past 20 years have resulted in a significant decrease in turbidity, an undesirable characteristic of Missouri River water.

The map of the study area, figure 2, includes locations of U.S. Geological Survey stream-sampling sites and water plants which are the source of data for this report.

Ref. 10

STATE OF MISSOURI Mel Carnahan, Governor • David A. Shorr, Director

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF GEOLOGY AND LAND SURVEY

P.O. Box 250 111 Fairgrounds Rd. Rolla, MO 65401-0250

FAX (314)368-2111

09/08/1995

Steve Sanchez
Ecology & Environmental
Cloverleaf Building 3
6405 Metcalf
Overland Park, KS 66202

RE: Well Search Request

We have received your recent request for information on wells located in the following locations:

Sections:

Township: Latitude 38 Degrees 39 min 33 sec

Range: Longitude 90 Degrees 13 min 13.7 sec

This letter is to inform you that our records show that there have not been any wells reported in this area since 1986.

If I can be of further assistance, please feel free to contact me, Sheri Fry, at (314) 368-2318.

- - - - - - - - - - - - - - - - - H e a d e r   D a t a - - - - - - - - - - - - - - - - -

Log # 19835
Owner:NORTHWESTERN COOPERAGE CO
Alias:
Type well:Private Well
Type log: S
Driller:HAVERSTICK WELL CO Date: /
Driller Liscense #:
Logger:C.E. ROBERTSON Date:08/1961

St:MO Cnty:ST. LOUIS
SE SE NE TRS: S02 T45N R07E
Lat.:38,40,23.648N
Long.:90,11,25.660W
Quad:38090F2
Confidential:N Release Dt. /

Elev.: 420 Elev.S Yield: 260 SWL:(a) H20 @:
T.D.: 80 base: DrDwn: 31 SWL:(b)

Bedrock at: 75 Samples saved:N Int. cored: 0 to 0
Top Fm.:HOLOCENE ALLUVIUM
Bot Fm.:MISSISSIPPIAN SYSTEM
Problems:
Remarks:

- - - - - - - - - - - - - - - C o n s t r u c t i o n   D a t a - - - - - - - - - - - - - -

Log #:019835 Date Completed: /

CASING:	Dpth:	Diam:	I/O:	Sz. Hole:	Sz. Below:
	59	8.00	O	0.00	0.00
	0	0.00			
	0	0.00			
	0	0.00			

ROUT:	Type	Rig	Methd	Dt Abnd	Plug Date	Top	Bottom
				/	/	0	0

PUMP:	Cap	Type	Set at	TDH	Scrn Typ	Size	Lgth	Slot
	0		0	0		0	0	0

Well Treat Type Dev Typ Compl Perf. Interval Tube Pres. Oil Gas
Top: 0 Bot: 0

Open Formations Top:HOLOCENE ALLUVIUM
Bot:MISSISSIPPIAN SYSTEM
Other data sources:
Remarks:

- - - - - - - - - - - - - - - S t r a t i g r a p h y   D a t a - - - - - - - - - - - - - -

Log #:019835

Top	Base	Name	Lith Pr	Lith Sc	Lith Mn	Minerals Pri	Oc	Sec	Oc	Mnr	Oc
0	75	HOLOCENE ALLUVIUM	CL	SD	GR		0		0		0
75	80	MISSISSIPPIAN SYSTEM	LS	SD			0		0		0

Printed on 08/28/95 at 10:26:50.

This company is no longer existent and the well owner can not be contacted. The well lat. & long. place the well approximately 1.5 miles due east of the site.

Cupples Products (not known if it is the same as Cupples company) say their well is no longer intact.

(314) 426-7750 Mr. Stahl

---------------- Header Data ----------------

Log # 003616 Owner:CUPPLES COMPANY St:MO Cnty:ST. LOUIS
SE NE NW TRS: S02 T45N R07E
Alias: Lat.:
T[illegible] well:Private Well Long.:
Type log: S Quad:UNKNOWN
Driller:WISE Date:05/1936
Driller Liscense #: Confidential:N Release Dt. /
Logger:GROHSKOPF Date: /

Elev.: 421 Elev.S Yield: 15 SWL:(a) H20 @:
T.D.: 885 base: DrDwn: 0 SWL:(b)

Bedrock at: 0 Samples saved:N Int. cored: 0 to 0
Top Fm.:ST LOUIS LIMESTONE
Bot Fm.:SILURIAN SYSTEM
Problems:
Remarks:

------------- Stratigraphy Data -----------

Log #:003616

Top	Base	Name	Lith Pr	Lith Sc	Lith Mn	Minerals Pri	Oc	Sec	Oc	Mnr	Oc
0	210	ST LOUIS LIMESTONE	LS	SH			0		0		0
210	325	SALEM FORMATION	LS	CH	SH		0		0		0
325	435	WARSAW FORMATION	SH	LS	CH		0		0		0
435	595	KEOKUK-BURLINGTON LS. UNDIFF	CH	LS			0		0		0
595	700	FERN GLEN FORMATION	CH	LS	SH		0		0		0
700	735	CHOUTEAU GROUP	LS	CH			0		0		0
[illegible]5	755	CHATTANOOGA SHALE	SH				0		0		0
[illegible]5	885	SILURIAN SYSTEM	LS	SD	DL		0		0		0

Printed on 08/28/95 at 10:27:48.

Ref. 11

TELEPHONE CONVERSATION RECORD

DATE OF CALL 8-9-95 TIME OF CALL 0953

PERSON CONTACTED Frank Heron

COMPANY St. Louis Public Utilities Water Div. TITLE Division Engineer

SUBJECT OF CALL drinking H_2O TELEPHONE # 314-771-4880 ext 127

CONVERSATION

According to Mr. Heron, St. Louis drinking water comes from 2 surface water sources: St. Louis and Mississippi Rivers. The Mississippi River intake is located at Riverview and Interstate 270 at the Chain of Rocks water Treatment plant (314) 868-5640.

The Missouri River intake is located at Olive Street and Interstate 64 at the Chesterfield Water Treatment Plant.

There are 110,000 customer accounts for water services. of the 110,000 accounts 20,000 are for businesses.

St. Louis authorities do not allow wells to be drilled or placed in the city limits.

Carl Shumaker at 314-868-5640 can provide drinking water analytical results.

SIGNATURE Steve [signature]

DATE 8-9-95

Ref. 12

TELEPHONE CONVERSATION RECORD

DATE OF CALL Aug. 9, 1995 **TIME OF CALL** 1023

PERSON CONTACTED Bill Richie

COMPANY Metropolitan Sewer (St. Louis) **TITLE** Assoc. Engineer

SUBJECT OF CALL **TELEPHONE #** (314) 768-6272 Ext. 6464

CONVERSATION

Storm water + sewer systems are combined + get treated at the Bissell point treatment plant. At the Plant the waste water is treated + than released to the Mississippi. Bissell treatment plant (314) 436-8728 Jeff Theerman assistent director. No Complaints of odor or etc. from working in the system in that area.

Bissel Point Treatment Plant is on Granite City USGS 7.5' Quad.

SIGNATURE Steve [signature]

DATE 8-9-95

Reference 13

Water Resources Data for Missouri

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-80-1

WATER YEAR 1980

Prepared in cooperation with the Missouri Department of Natural Resources, Division of Geology and Land Survey and Division of Environmental Quality, Missouri State Highway Commission, and with other State and Federal agencies

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO

LOCATION.--Lat 38°37'44", long 90°10'47", Hydrologic Unit 07140101, on downstream side of west pier of Eads Bridge at St. Louis, 15 mi (24 km) downstream from Missouri River, 19.2 mi (30.9 km) upstream from Meramec River, and at mile 180.0 (289.6 km) above the Ohio River.

DRAINAGE AREA.--697,000 mi² (1,805,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: January 1861 to current year. Monthly discharge only for some periods, published in WSP 1311.
Gage heights: March 1933 to current year in reports of Geological Survey. Since January 1861 in reports of Mississippi River Commission. Since January 1890 in reports of National Weather Service.

REVISED RECORDS.--WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.94 ft (115.806 m) National Geodetic Vertical Datum of 1929. Prior to May 5, 1934, nonrecording gage 0.4 mi (0.6 km) downstream and May 5, 1934, to Dec. 9, 1952, water-stage recorder at site 20 ft (6 m) downstream at present datum.

REMARKS.--Records excellent. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--119 years, 151,700 ft³/s (4,296 m³/s), 128,100,000 acre-ft/yr (158 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,019,000 ft³/s (28,900 m³/s) June 10, 11, 1903, gage height, 38.00 ft (11.582 m); maximum gage height, 43.23 ft (13.176 m) Apr. 28, 1973; minimum daily discharge, 18,000 ft³/s (510 m³/s) Dec. 21-23, 1863; minimum gage height, -6.11 ft (-1.862 m) Jan. 16, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 27, 1844, reached a stage of 41.32 ft (12.594 m), from floodmarks, discharge, 1,300,000 ft³/s (36,800 m³/s), computed by Corps of Engineers. Flood in April 1785 may have reached a stage of 42.0 ft (12.80 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 358,000 ft³/s (10,100 m³/s) Apr. 2, gage height, 22.33 ft (6.776 m); minimum daily, 74,300 ft³/s (2,100 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99000	151000	162000	133000	82100	141000	283000	174000	113000	157000	99200	130000
2	103000	140000	162000	132000	85800	120000	341000	171000	150000	151000	81300	166000
3	95000	135000	159000	123000	86300	125000	349000	166000	225000	156000	79600	196000
4	106000	144000	147000	117000	82000	129000	305000	165000	282000	163000	76800	202000
5	114000	157000	138000	112000	78900	137000	267000	161000	313000	143000	80000	207000
6	106000	162000	134000	112000	76100	122000	253000	147000	337000	138000	85900	218000
7	102000	150000	121000	118000	76600	127000	261000	143000	334000	135000	101000	220000
8	101000	144000	130000	98000	78100	125000	286000	145000	329000	129000	98300	200000
9	98400	145000	126000	83100	79900	118000	317000	140000	306000	117000	100000	181000
10	81600	145000	132000	74300	76900	116000	305000	124000	282000	113000	104000	164000
11	90200	147000	132000	85700	77600	112000	294000	124000	272000	102000	93800	159000
12	90500	145000	129000	85800	79200	109000	287000	120000	268000	103000	113000	159000
13	90700	147000	123000	82200	79100	133000	281000	119000	258000	96500	127000	162000
14	88700	146000	124000	91300	79700	134000	285000	125000	252000	102000	128000	165000
15	87900	149000	122000	85600	86400	145000	289000	122000	248000	109000	133000	167000
16	98300	144000	113000	78200	86600	154000	296000	127000	249000	103000	152000	168000
17	98100	145000	102000	78800	84300	167000	304000	133000	261000	97400	170000	188000
18	94300	148000	92800	90000	88200	187000	305000	137000	274000	89800	183000	199000
19	85200	151000	93200	110000	94600	214000	301000	139000	274000	88000	200000	197000
20	85900	142000	96100	126000	95700	226000	289000	140000	266000	84900	193000	185000
21	83400	136000	97300	142000	105000	228000	275000	128000	259000	87400	188000	178000
22	81400	144000	100000	140000	104000	213000	268000	123000	249000	80700	174000	173000
23	98800	148000	101000	138000	103000	207000	266000	123000	238000	90100	168000	173000
24	95600	159000	109000	121000	119000	215000	261000	122000	211000	102000	142000	174000
25	109000	169000	129000	122000	159000	222000	253000	116000	193000	102000	135000	178000
26	113000	160000	126000	117000	175000	223000	234000	113000	181000	91500	146000	179000
27	128000	156000	135000	113000	173000	229000	214000	113000	178000	82700	145000	179000
28	130000	161000	142000	96400	187000	240000	202000	122000	168000	79900	124000	179000
29	123000	161000	143000	87700	174000	234000	201000	123000	163000	87300	114000	182000
30	128000	156000	148000	83000	---	235000	187000	117000	159000	85200	109000	184000
31	141000	---	144000	80500	---	264000	---	114000	---	90600	109000	---
TOTAL	3147200	4487000	3912400	3258600	2953100	5351000	8259000	4136000	7292000	3357000	3952900	5412000
MEAN	101500	149600	126200	105100	101800	172600	275300	133400	243100	108300	127500	180400
MAX	141000	169000	162000	142000	187000	264000	349000	174000	337000	163000	200000	220000
MIN	81400	135000	92800	74300	76100	109000	187000	113000	113000	79900	76800	130000
CFSM	.15	.22	.18	.15	.15	.25	.40	.19	.35	.16	.18	.26
AC-FT	6242000	8900000	7760000	6459000	5857000	10610000	16380000	8204000	14460000	6659000	7841000	10730000

CAL YR 1979 TOTAL 83013700 MEAN 227400 MAX 684000 MIN 61200 CFSM .33 AC-FT 164700000
WTR YR 1980 TOTAL 55516200 MEAN 151700 MAX 349000 MIN 74300 CFSM .22 AC-FT 110100000

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

STREAM-FLOW, INSTAN-TANEOUS (cfs) (00061)	DATE	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
92,800	DEC 18...	32	36	--	47	57	62	99	100	100
138,000	MAR 13...	12	14	--	19	22	24	97	100	100
247,000	JUN 16...	46	52	63	74	85	87	96	99	100
196,000	SEP 17...	13	14	--	19	23	24	66	94	100

STREAM-FLOW, INSTAN-TANEOUS (cfs) (00061)	DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)
138,000	MAR 13...	1	1	87	97	99	100	100	100
247,000	JUN 16...	0	0	27	77	94	97	99	100
196,000	SEP 17...	0	1	19	71	90	96	99	100

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	283000	1420	1090000	174000	278	131000	113000	143	43600
2	341000	2010	1850000	171000	300	139000	150000	498	202000
3	349000	5140	4840000	166000	284	127000	225000	470	286000
4	305000	4110	3380000	165000	259	115000	282000	1200	914000
5	267000	2860	2060000	161000	253	110000	313000	1650	1390000
6	253000	2010	1370000	147000	237	94100	337000	2660	2420000
7	261000	1040	733000	143000	229	88400	334000	2990	2700000
8	286000	884	683000	145000	186	72800	329000	3160	2810000
9	317000	1060	924000	140000	179	67700	306000	2060	1700000
10	305000	1120	922000	124000	168	56200	282000	1870	1420000
11	294000	938	745000	124000	229	76700	272000	1280	940000
12	287000	800	620000	120000	193	62500	268000	996	721000
13	281000	736	558000	119000	130	41800	258000	1080	752000
14	285000	724	557000	125000	118	39800	252000	703	478000
15	289000	545	425000	122000	127	41800	248000	1080	723000
16	296000	519	415000	127000	118	40500	249000	960	645000
17	304000	434	356000	133000	238	85500	261000	534	376000
18	305000	502	413000	137000	230	85100	274000	371	274000
19	301000	488	397000	139000	152	57000	274000	306	226000
20	289000	457	357000	140000	132	49900	266000	629	452000
21	275000	412	306000	128000	131	45300	259000	427	299000
22	268000	617	446000	123000	118	39200	249000	419	282000
23	266000	399	287000	123000	106	35200	238000	491	316000
24	261000	317	223000	122000	100	32900	211000	1130	644000
25	253000	411	281000	116000	111	34800	193000	1130	589000
26	234000	387	245000	113000	86	26200	181000	630	308000
27	214000	383	221000	113000	66	20100	178000	446	214000
28	202000	366	200000	122000	60	19800	168000	348	158000
29	201000	339	184000	123000	99	32900	163000	324	143000
30	187000	307	155000	117000	113	35700	159000	397	170000
31	---	---	---	114000	---	---	---	---	---
TOTAL	8259000	---	25243000	4136000	---	1903900	7292000	---	22595600

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	157000	350	148000	99200	94	25200	130000	143	50200
2	151000	145	59100	81300	116	25500	166000	176	78900
3	156000	202	85100	74600	108	23200	196000	271	143000
4	163000	155	68200	76800	100	20700	202000	304	166000
5	143000	162	62500	80000	92	19900	207000	390	218000
6	138000	159	59200	85900	78	18100	218000	802	472000
7	135000	113	41200	101000	113	30800	220000	665	395000
8	129000	118	41100	98300	99	26300	200000	630	340000
9	117000	93	29400	100000	141	38100	181000	608	297000
10	113000	198	60400	104000	520	146000	164000	462	205000
11	102000	215	59200	93800	475	120000	159000	413	177000
12	103000	138	38400	113000	212	64700	159000	335	144000
13	96500	159	41400	127000	205	70300	162000	247	108000
14	102000	111	30600	128000	111	38400	165000	199	88700
15	109000	279	82100	133000	62	22300	167000	220	99200
16	103000	360	100000	152000	119	48800	168000	194	88000
17	97400	294	77300	170000	198	90900	188000	227	115000
18	89800	231	56000	183000	193	95400	199000	262	141000
19	88000	159	37800	200000	262	141000	197000	256	136000
20	84900	84	19300	193000	341	178000	185000	281	140000
21	87400	87	20500	188000	312	158000	178000	306	147000
22	80700	104	22700	174000	281	132000	173000	287	134000
23	90100	104	25300	168000	354	161000	173000	274	128000
24	102000	133	36600	142000	367	141000	174000	363	171000
25	102000	81	22300	135000	295	108000	178000	350	168000
26	91500	94	23200	146000	452	178000	179000	419	203000
27	82700	113	25200	145000	634	248000	179000	420	203000
28	79900	78	16800	124000	482	161000	179000	595	288000
29	87300	112	26400	114000	237	72900	182000	462	227000
30	85200	121	27800	109000	155	45600	184000	459	228000
31	90600	92	22500	109000	106	31200	---	---	---
TOTAL	3357000	---	1465600	3952900	---	2680300	5412000	---	5499000

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL
(National stream-quality accounting network station)

LOCATION.--Lat 38°51'41", long 90°08'15", Madison County, Hydrologic Unit 07110009, 3.0 mi (4.8 km) downstream from gaging station, 4.7 mi (7.6 km) upstream from Missouri River and at mile 199.7 (321.3 km) upstream from Ohio River.

DRAINAGE AREA.--171,500 mi² (444,200 km²), approximately above gaging station.

PERIOD OF RECORD.--Water years 1975-80.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to current year.
WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Water temperature and specific conductance recorded by instrument at gaging station 05587500 Mississippi River at Alton, IL. Number of missing days of record exceed 20 percent of year for water temperature.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 704 micromhos Jan. 24, 1977; minimum, 286 micromhos July 5, 1978.
WATER TEMPERATURES: Maximum, 30.0°C July 4, 5, 1975, July 25-28, 31, 1976, July 9, 10, 11, 12, 13, 15, 16, 17, 1980; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 30.0°C July 9, 10, 11, 12, 13, 15, 16, 17.
SPECIFIC CONDUCTANCE: Maximum, 691 April 28; minimum, 365 June 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH FIELD (UNITS) (00400)	TEMPER-ATURE, WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT												
18...	38000	500	8.6	16.5	13	10.7	109	200	--	260	53	61
NOV												
29...	87800	570	8.0	2.5	22	11.8	87	80	1000	240	50	60
DEC												
20...	39200	598	8.7	.5	16	14.6	101	20	20	280	55	67
JAN												
16...	76100	545	8.8	2.0	1.5	15.0	109	180	40	260	75	63
FEB												
21...	85100	660	7.6	1.0	10	14.6	103	20	80	270	80	65
MAR												
21...	122000	510	8.2	4.5	92	11.4	88	140	240	220	60	52
APR												
04...	131000	425	8.1	7.0	120	9.6	79	200	400	170	27	42
MAY												
06...	88100	600	8.3	18.0	25	8.6	90	120	12	270	100	64
JUN												
05...	220000	390	7.9	23.0	380	2.6	30	2400	2600	170	57	42
JUL												
10...	53000	465	8.4	30.5	23	6.0	79	700	300	220	64	55
AUG												
14...	99700	450	8.2	28.5	26	5.4	69	200	880	200	59	45
SEP												
16...	140000	406	7.9	23.0	72	5.8	67	1200	1000	180	47	43

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
NOV 29...	1	1	300	60	1	2	0	0	1	<3
DEC 20...	--	--	--	--	--	--	--	--	--	--
FEB 21...	1	1	200	60	2	2	10	10	7	<3
MAR 21...	--	--	--	--	--	--	--	--	--	--
MAY 08...	2	1	200	70	9	27	0	0	3	<3
JUN 05...	--	--	--	--	--	--	--	--	--	--
AUG 14...	5	4	0	80	1	2	10	10	1	<3
SEP 18...	--	--	--	--	--	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
NOV 29...	--	19	1200	30	32	2	140	30	.0
DEC 20...	--	--	--	--	--	--	--	--	--
FEB 21...	9	3	690	50	0	2	90	60	.1
MAR 21...	--	--	--	--	--	--	--	--	--
MAY 08...	9	5	1300	<10	180	78	110	9	.2
JUN 05...	--	--	--	--	--	--	--	--	--
AUG 14...	21	8	950	10	20	0	120	6	.2
SEP 18...	--	--	--	--	--	--	--	--	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 29...	.0	14	2	1	1	0	0	100	40
DEC 20...	--	--	--	--	--	0	--	--	--
FEB 21...	.0	0	4	1	1	0	0	20	8
MAR 21...	--	--	--	--	--	1	--	--	--
MAY 08...	.1	9	3	1	1	0	0	30	4
JUN 05...	--	--	--	--	--	0	--	--	--
AUG 14...	.1	5	4	1	1	0	0	130	40
SEP 18...	--	--	--	--	--	0	--	--	--

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

PERIPHYTON

DATE	NOV 29,79		MAR 21,80		MAY 8,80		JUN 5,80	
TIME	1130		1000		1000		1200	
TOTAL CELLS/ML	17000		6100		36000		29000	
DIVERSITY: DIVISION	0.7		0.3		1.8		1.6	
.CLASS	0.7		0.3		1.8		1.6	
..ORDER	1.3		1.0		2.2		1.7	
...FAMILY	1.4		1.2		2.9		2.1	
....GENUS	2.1		1.4		3.5		2.7	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	*	0	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	2200	7
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	*	0
....MICRACTINIUM	--	-	--	-	4400	12	280	1
...OOCYSTACEAE								
....ANKISTRODESMUS	260	2	190	3	570	2	--	-
....CHLORELLA	510	3	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	1300	4	--	-
....GLOEOACTINIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	*	0	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	3200	9	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	1000	6	--	-	--	-	550	2
....SCENEDESMUS	640	4	--	-	2900	8	5900#	20
....TETRASTRUM	--	-	--	-	--	-	1100	4
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	65	1	430	1	--	-
...PHACOTACEAE								
....PTEROMONAS	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....COSCINODISCUS	--	-	--	-	--	-	--	-
....CYCLOTELLA	11000#	63	4700#	77	3400	10	2600	9
....MELOSIRA	640	4	190	3	1100	3	5200#	18
....SKELETONEMA	510	3	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	5900#	16	960	3
..PENNALES								
...FRAGILARIACEAE								
....ASTERIONELLA	1800	11	580	9	--	-	--	-
....SYNEDRA	390	2	--	-	*	0	--	-
...NAVICULACEAE								
....GYROSIGMA	--	-	--	-	--	-	--	-
....NAVICULA	--	-	65	1	--	-	*	0
...NITZSCHIACEAE								
....NITZSCHIA	130	1	190	3	290	1	280	1
...SURIRELLACEAE								
....CYMATOPLEURA	--	-	--	-	--	-	*	0
....SURIRELLA	--	-	65	1	--	-	--	-
.CHRYSOPHYCEAE								
..CHRYSOMONADALES								
...CHROMULINACEAE								
....CHRYSOCOCCUS	--	-	--	-	290	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	*	0	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	430	1	--	-

MISSISSIPPI RIVER MAIN STEM

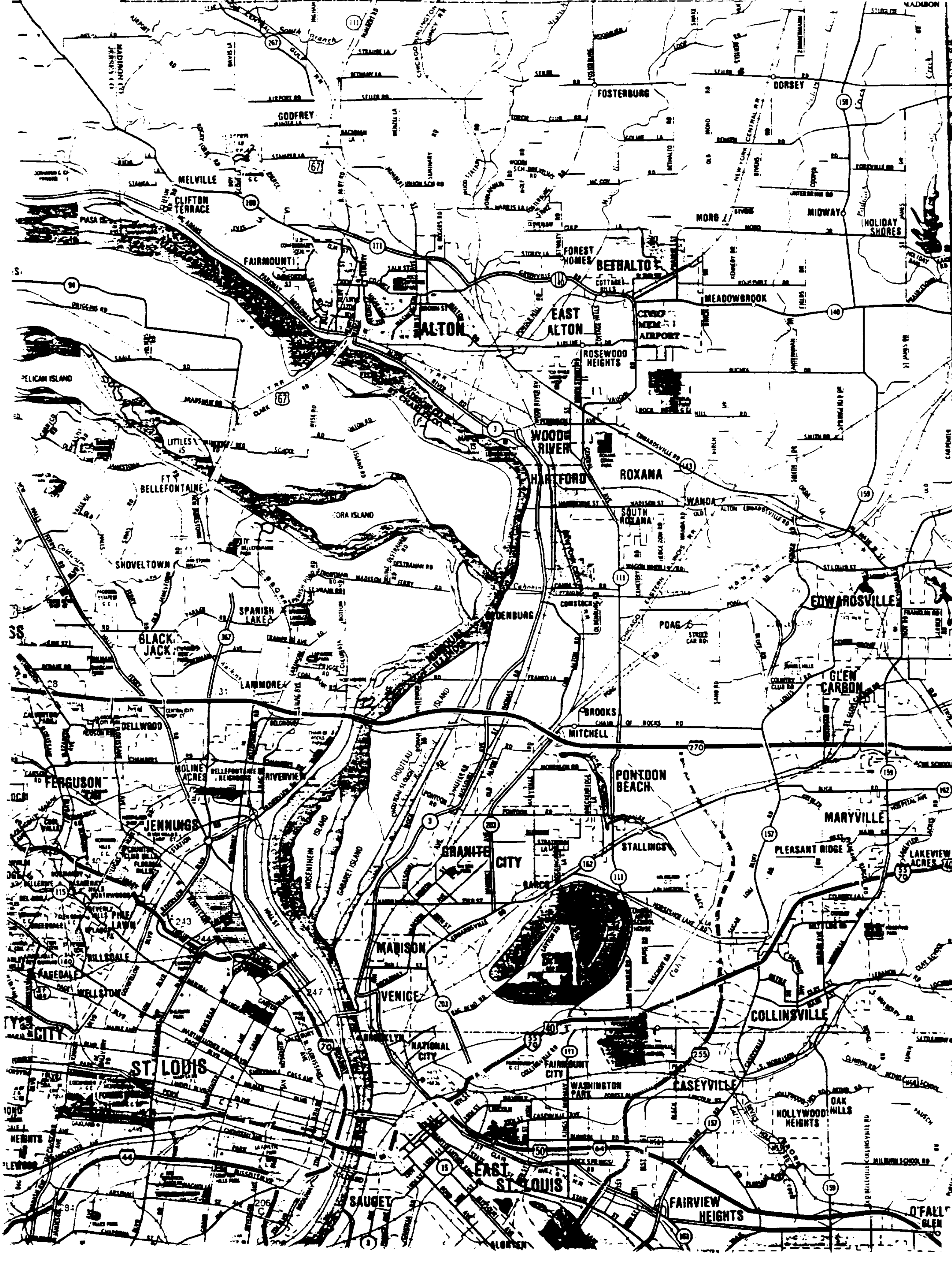
05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

	JUL 10,80	AUG 14,80	SEP 16,80
DATE	JUL 10,80	AUG 14,80	SEP 16,80
TIME	1300	1000	1000
TOTAL CELLS/ML	7900	37000	19000
DIVERSITY: DIVISION	1.6	1.0	1.5
.CLASS	1.6	1.0	1.5
..ORDER	2.2	1.9	2.2
...FAMILY	2.8	2.3	2.8
....GENUS	3.4	2.9	3.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	--	-	--	-	*	0
...COELASTRACEAE						
....COELASTRUM	250	3	340	1	290	2
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	--	-
...MICRACTINIACEAE						
....GOLENKINIA	*	0	--	-	--	-
....MICRACTINIUM	400	5	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	*	0	*	0
....CHLORELLA	50	1	--	-	--	-
....DICTYOSPHAERIUM	330	4	370	1	2100	11
....GLOEOACTINIUM	--	-	--	-	440	2
....KIRCHNERIELLA	--	-	230	1	--	-
....OOCYSTIS	500	6	230	1	110	1
....SELENASTRUM	--	-	*	0	--	-
....TETRAEDRON	--	-	--	-	*	0
....TREUBARIA	--	-	--	-	*	0
...SCENEDESMACEAE						
....ACTINASTRUM	600	8	270	1	150	1
....SCENEDESMUS	400	5	1000	3	1100	6
....TETRASTRUM	--	-	270	1	290	2
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	100	1	*	0	180	1
...PHACOTACEAE						
....PTEROMONAS	*	0	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....COSCINODISCUS	--	-	*	0	--	-
....CYCLOTELLA	1300#	16	640	2	1500	8
....MELOSIRA	980	12	3000	8	2900#	16
....SKELETONEMA	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-
..PENNALES						
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	180	1
...NAVICULACEAE						
....GYROSIGMA	--	-	*	0	--	-
....NAVICULA	--	-	*	0	*	0
...NITZSCHIACEAE						
....NITZSCHIA	200	3	1700	5	440	2
...SURIRELLACEAE						
....CYMATOPLEURA	--	-	--	-	--	-
....SURIRELLA	--	-	--	-	--	-
.CHRYSOPHYCEAE						
..CHRYSOMONADALES						
...CHROMULINACEAE						
....CHRYSOCOCCUS	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	--	-	--	-



MADISON
GODFREY
FOSTERBURG
DORSEY
MELVILLE
CLIFTON TERRACE
MORO
MIDWAY
HOLIDAY SHORES
FAIRMOUNT
FOREST HOMES
BETHALTO
MEADOWBROOK
EAST ALTON
ALTON
CIVIC MEM AIRPORT
ROSEWOOD HEIGHTS
PELICAN ISLAND
LITTLES IS
WOOD RIVER
HARTFORD
ROXANA
FT BELLEFONTAINE
WANDA
SOUTH ROXANA
CORA ISLAND
SHOVELTOWN
SPANISH LAKE
EDWARDSVILLE
POAG
BLACK JACK
LARIMORE
GLEN CARBON
BROOKS
DELLWOOD
MITCHELL
MOLINE ACRES
BELLEFONTAINE NEIGHBORS
RIVERVIEW
FERGUSON
PONTOON BEACH
JENNINGS
MARYVILLE
GRANITE CITY
STALLINGS
PLEASANT RIDGE
LAKEVIEW ACRES
MOSENTHEIN ISLAND
CABARET ISLAND
HILLSDALE
MADISON
PAGEDALE
WELLSTON
VENICE
COLLINSVILLE
BROOKLYN
NATIONAL CITY
ST LOUIS
FAIRMOUNT CITY
WASHINGTON PARK
CASEYVILLE
OAK HILLS
HOLLYWOOD HEIGHTS
EAST ST LOUIS
SAUGET
FAIRVIEW HEIGHTS

Ref. 14

TELEPHONE CONVERSATION RECORD

DATE OF CALL Aug. 15, 1995 TIME OF CALL 1113

PERSON CONTACTED Diane Marty

COMPANY Public Water Dist. #1, Arnold, Mo. TITLE Supervisor

SUBJECT OF CALL Drinking water source TELEPHONE # (314) 296-0659

CONVERSATION Arnold is located 15 miles South of St. Louis and the Public water Dist. #1 recives their drinking water from St. Louis Public Utilities.

SIGNATURE Steve [signature]

DATE 8-15-95

2.5. 15

MISSOURI DEPARTMENT OF CONSERVATION

Headquarters
2901 West Truman Boulevard, P.O. Box 180, Jefferson City, Missouri 65102-0180
Telephone: 314/751-4115 ◆ Missouri Relay Center: 1-800-735-2966 (TDD)

JERRY J. PRESLEY, Director

August 25, 1995

Mr. Steven A. Sanchez
Ecology and Environment, Inc.
6405 Metcalf
Building 3 - Suite 404
Overland Park, KS 66202

Reference: Hazardous Waste Site - Carter Carburetor

Dear Mr. Sanchez:

Thank you for the request for rare and endangered species or other sensitive environmental concerns that may be impacted by the referenced project. Available records indicate that sensitive species or natural communities are known to exist on or near the project site. Please refer to the attached Heritage Database report for details. This report reflects information we currently have in our database. We provide this information for planning purposes only; it should not be regarded as a definitive statement as to the presence or absence of rare/endangered species or high-quality natural communities. You may need to conduct additional on-site inspections to verify the presence or absence of such species or communities.

If you have questions or need additional information, please contact Mr. Norm Stucky at the above address.

Sincerely,

Dan F. Dickneite

DAN F. DICKNEITE
PLANNING DIVISION CHIEF

Enclosure

MISSOURI DEPARTMENT OF CONSERVATION

Planning Division
P.O. Box 180
Jefferson City, MO 65102

Reply To: FAX (314) 526-4495

Date: 10-16

FAX COVER LETTER

Please Deliver the Following Page(s) to:

NAME: Steve Sanchez

LOCATION:

FROM: Kathy McGrath

MESSAGE:

Steve - Answers to all (hopefully) of your questions:

Distance from site to R/E occurrence, in miles:

1. peregrine T45N R7E S23 2.2 miles
2. " T46N R7E S35 2.3
3. Joplin Historic Site T45N R7E S15 1.1 mile

Bald eagle - federally threatened
pallid sturgeon - endangered
peregrine - endangered

S/A → ignore - it's a Nature Conservancy term

Your site is in Section 10, and appears to be roughly in the center. See map p2 - if location is off, adjust mileages somewhat

Total Pages, Including This Cover: 2

IF YOU DO NOT RECEIVE ALL, CALL (314) 751-4115

Contact #: 314-882-9880
Facsimile #: 314-882-4517

Date: 9/25/95 Time: 3:25

Please deliver to:

Name: Steven Sanchez

Company:

From: Missouri Department of Conservation
1110 South College Avenue, Columbia, MO. 65201

Name: John W Robinson

Number of pages 3 including this one.

Subject: Jefferson + St. Louis commercial harvest 1992-1993

If you do not receive all of the pages, or have any questions about this transmission, please call 314-882-9880.

Thank you.

Missouri Department of Conservation
Fish and Wildlife Research Center

1990

Jefferson County

SPECIE	SEINE POUNDS	SEINE DOLLARS	TRAMMEL NET POUNDS	TRAMMEL NET DOLLARS	GILL NET POUNDS	GILL NET DOLLARS	HOOP NET POUNDS	HOOP NET DOLLARS	TROT LINE POUNDS	TROT LINE DOLLARS	TOTAL POUNDS	TOTAL DOLLARS
ASIATIC CARP	.	.	3	0	.	.	.	.	.	.	3	0
GRASSCARP	.	.	25	5	.	.	.	.	.	.	25	5
PADDLEFISH	.	.	8	2	.	.	.	.	.	.	8	2
Q S CARP	.	.	75	14	.	.	.	.	.	.	75	14
BLUE CAT	.	.	183	92	.	.	600	300	.	.	783	392
CHANNEL CAT	.	.	225	122	.	.	250	135	.	.	475	257
FLATHEAD	.	.	10	5	.	.	600	300	.	.	610	305
DRUM	.	.	120	16	.	.	.	.	.	.	120	16
CARP	.	.	200	28	.	.	100	14	.	.	300	42
BUFFALO	.	.	570	143	.	.	200	50	.	.	770	193
TOTAL	.	.	1419	425	.	.	1750	799	.	.	3169	1224
DAYS	.		47		.		310		.			

RIVER= MISSISSIPPI COUNTY=LEWIS 57

SPECIE	SEINE POUNDS	SEINE DOLLARS	TRAMMEL NET POUNDS	TRAMMEL NET DOLLARS	GILL NET POUNDS	GILL NET DOLLARS	HOOP NET POUNDS	HOOP NET DOLLARS	TROT LINE POUNDS	TROT LINE DOLLARS	TOTAL POUNDS	TOTAL DOLLARS
EEL	.	.	.	.	.	.	2	0	.	.	2	0
Q S CARP	.	.	.	.	.	.	6	1	.	.	6	1

RIVER= MISSISSIPPI COUNTY=ST LOUIS 97

SPECIE	SEINE POUNDS	SEINE DOLLARS	TRAMMEL NET POUNDS	TRAMMEL NET DOLLARS	GILL NET POUNDS	GILL NET DOLLARS	HOOP NET POUNDS	HOOP NET DOLLARS	TROT LINE POUNDS	TROT LINE DOLLARS	TOTAL POUNDS	TOTAL DOLLARS
PADDLEFISH	.	.	40	10	.	.	.	.	.	.	40	10
STURGEON	.	.	15	4	.	.	.	.	.	.	15	4
BOWFIN	.	.	10	1	.	.	.	.	.	.	10	1
BLUE CAT	.	.	260	130	.	.	.	.	.	.	260	130
CHANNEL CAT	.	.	30	16	.	.	.	.	40	22	70	38
FLATHEAD	.	.	115	58	.	.	200	100	.	.	315	158
DRUM	.	.	20	3	.	.	.	.	.	.	20	3
CARP	.	.	260	36	.	.	.	.	.	.	260	36
BUFFALO	.	.	200	50	.	.	2	1	.	.	202	51
TOTAL	.	.	950	300	.	.	202	101	40	22	1192	430
DAYS	.		12		.		28		1			

Figures are for Missouri commercial fishermen only.

JWR
9/25/95

TELEPHONE CONVERSATION RECORD

DATE OF CALL 12-6-95 TIME OF CALL 0830

PERSON CONTACTED Ann

COMPANY National Weather Service TITLE Hydro-Meterological Technician

SUBJECT OF CALL primary wind direction TELEPHONE # 314-441-8467 #5

CONVERSATION

According to the hydro-meterological technician at the National Weather Service the primary wind direction is from the southwest. Ann verified that samples should be collected from the north to northeast direction of the site for the greatest potential of detecting contaminants which may have been distributed off the site via wind.

Carter Carburetor Site

SIGNATURE Steve [illegible]

DATE 12-6-95

Ref. 18

TELEPHONE CONVERSATION RECORD

DATE OF CALL 9-18-95 TIME OF CALL 1007

PERSON CONTACTED Tom Kerr

COMPANY Fiesta Corporation TITLE owner

SUBJECT OF CALL TELEPHONE # 314-385-4567

CONVERSATION

Fiesta Corporation rents portions of the former Carter Carburetor site to:

Maintenance Control - 314-531-9080 (in 3 story bldg)

Wilco Plastics: 4 employees

Caribou Corporation: 5 employees

Mac's Auto Service: 2 employees (in 1 story bldg)

Fiesta Corporation ~~owns~~ manages the former Carter Carburetor 3 story building. AH 2/16/95 per Tom Kerr

SIGNATURE Steve C. Sarchy

DATE 9-18-95

TELEPHONE CONVERSATION RECORD

DATE OF CALL 9-18-95 TIME OF CALL 1051

PERSON CONTACTED King Taylor

COMPANY Caribou Corporation TITLE president

SUBJECT OF CALL No. of employees TELEPHONE # 314-534-6135

CONVERSATION

According to King Taylor, Caribou Corp has several employees but can only consider five full time employees. Caribou Corp. is located on the Grand/St. Louis Ave. portion of former Carter Carburetor. Caribou manufactures carburetor parts.

SIGNATURE Steve V. Sometky

DATE 9-18-95

Ref. 20

TELEPHONE CONVERSATION RECORD

DATE OF CALL 9-18-95 TIME OF CALL 1409

PERSON CONTACTED Karen Tow

COMPANY Maintenance Control / Karmar TITLE owner of Karmar

SUBJECT OF CALL ______ TELEPHONE # 314-531-9080

CONVERSATION

Maintence Control / Karmar have a total of 14 employees. They are located on the bottem floor at Spring and Dodier in the former Carter Carburetor building. They rent from Fiesta Corporation. Maintence Control / Karmar repair and modify's pallet racks, They also intall them and do maintenance type sub contracts.

SIGNATURE Steve C. Sumeky

DATE 9-18-95

Ref. 21

TELEPHONE CONVERSATION RECORD

DATE OF CALL 9-18-95 TIME OF CALL 1430

PERSON CONTACTED Roger Will

COMPANY Wilcor Plastics TITLE President

SUBJECT OF CALL TELEPHONE # 314-535-1200

CONVERSATION

Wilco Plastics has 4 employees. According to Roger they don't use any chemicals and primary conduct polishing and machining. They are located on the 2nd floor in the NE corner of the former CCI.

SIGNATURE Steve O. Semchy

DATE 9-18-95

Ref. 22

00
GEMS> 4.8

Enter the next ring distance
GEMS> 6.4

...r the next ring distance
GEMS> next

Enter program execution mode: B (batch) or I (interactive)
GEMS> i

Carter Carburetor
LATITUDE 38:39:33 LONGITUDE 90:13:13 1983 POPULATION

	0 - 1/4 mi	1/4 - 1/2 mi	1/2 mi - 1	1-2	2-3	3-4 miles	SECTOR
KM	0.00-.400	.400-.800	.800-1.60	1.60-3.20	3.20-4.80	4.80-6.40	TOTALS
S 1	115	7720	21068	64163	59316	93847	246229
RING TOTALS	115	7720	21068	64163	59316	93847	246229

press RETURN to continue
Esc for ATtention, Home to SWitch | Capture Off | On: 00:07:47

Ref. 23

United States
Environmental Protection
Agency
Superfund

Office of Emergency and
Remedial Response
Washington, DC 20460

Publication
September 1995

EPA

Superfund Chemical Data Matrix

Ref. 2

U.S. Department of Commerce
Economics and Statistics Administration
BUREAU OF THE CENSUS

1990 CPH-2-1

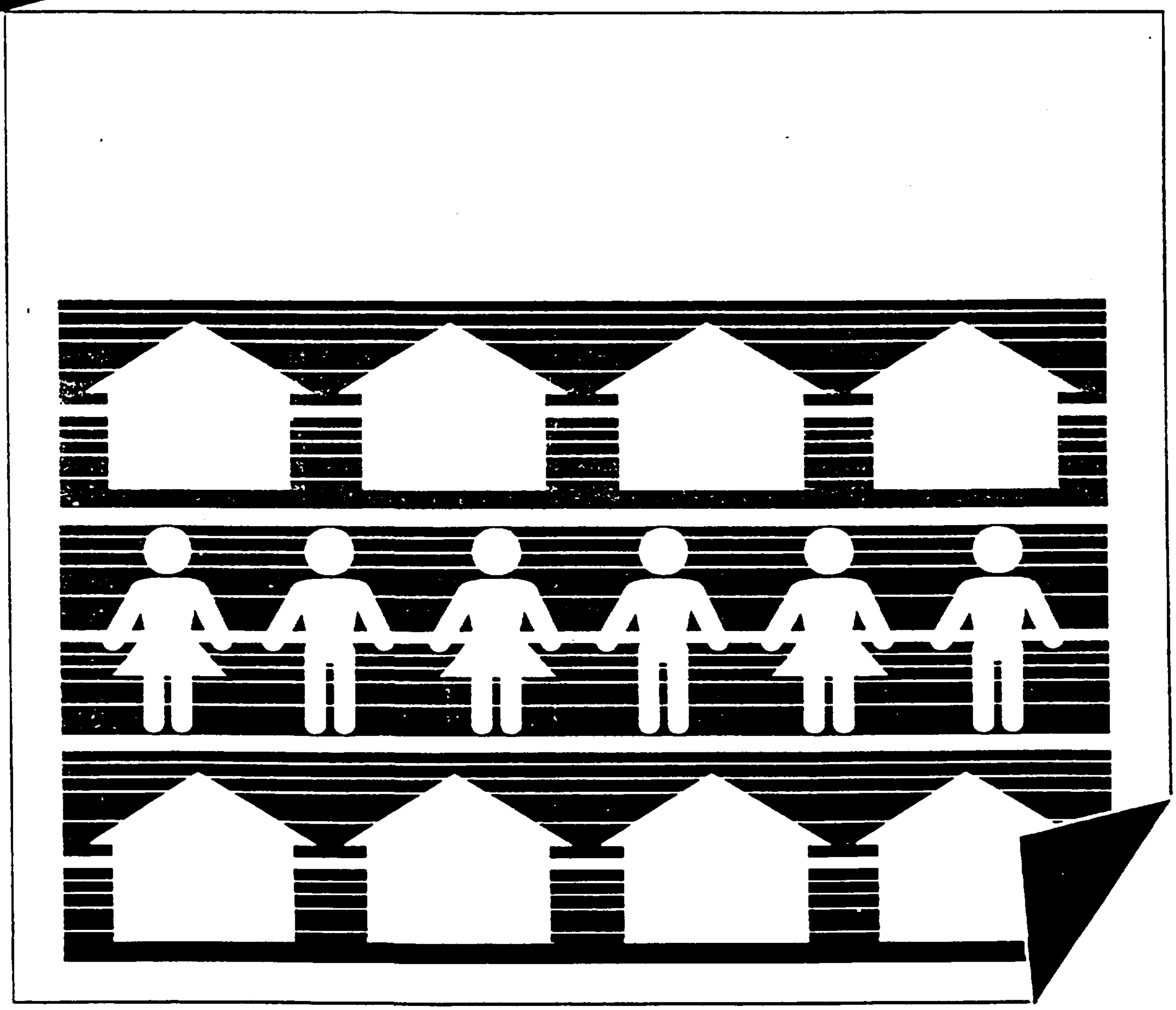
1990 Census of Population and Housing

Population and Housing Unit Counts

United States

CENSUS '90

DO NOT REMOVE
FOR DISPLAY ONLY



Ref. 24

U.S. Department of Commerce
Economics and Statistics Administration
BUREAU OF THE CENSUS

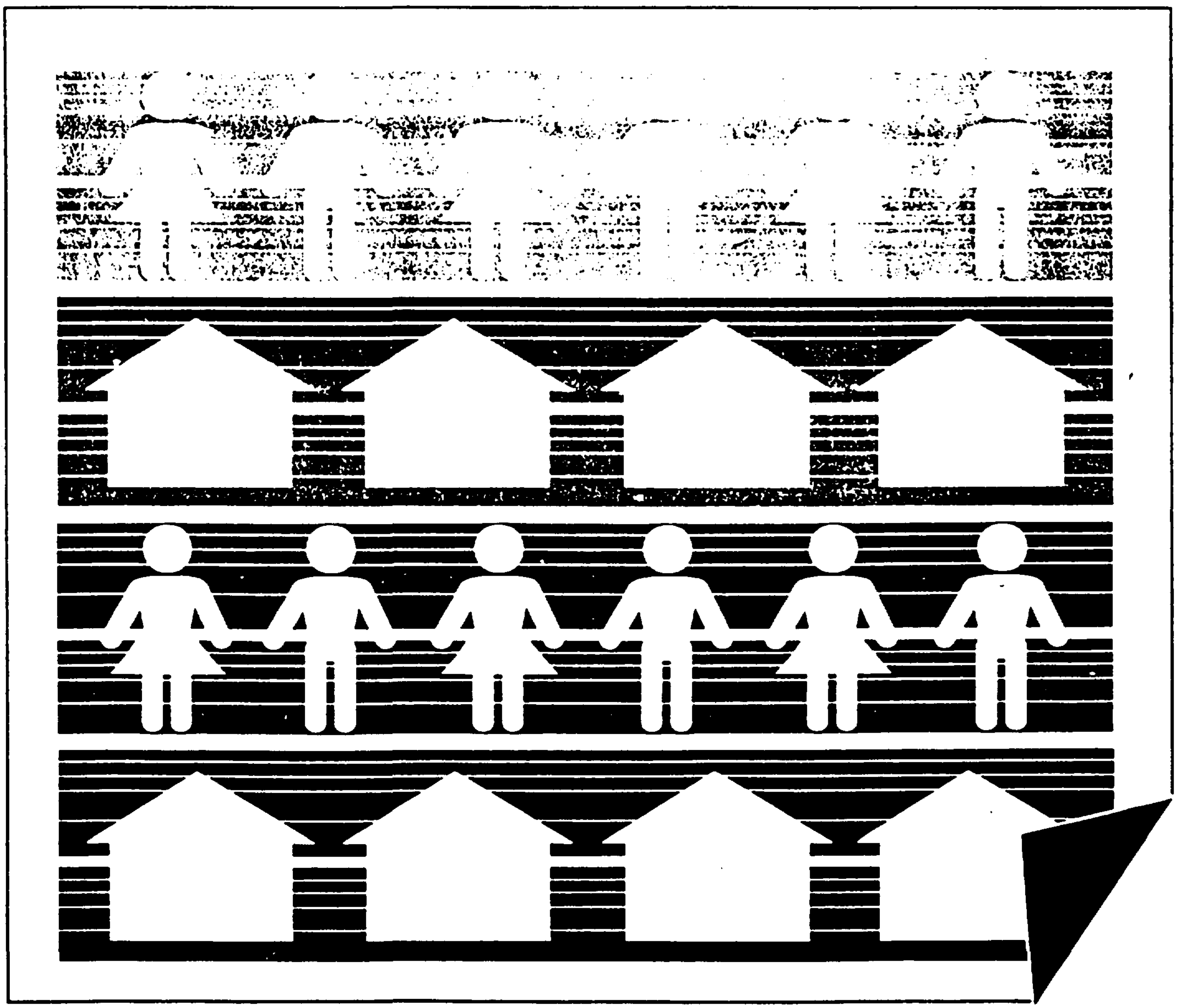
1990 CPH-1-27

CENSUS '90

1990 Census of Population and Housing

Summary Population and Housing Characteristics

Missouri



Ref. 25

TELEPHONE CONVERSATION RECORD

DATE OF CALL 9-18-95 TIME OF CALL 1116

PERSON CONTACTED Yvonne Stokes

COMPANY Herbert Hoover Boys Club TITLE Directer of Administration

SUBJECT OF CALL # of employees TELEPHONE # (314) 652-8300

CONVERSATION

Herbert Hoover Boys Club building is under renovation by McCarthy Companies.

When they go back into the building approximately 18 employees, but may be more later. Herbert Hoover Boys club has approximately 2,200 total enrollment, largest per season between 300-350 during semester/day.

Since 1967 have been open.

M-Th kids spend approximately 3:30-9:30pm. In Summer 9-5 M-F.

1 football + 1 baseball field on-site, Grassed fields + maintained. 1 Employee maintains fields

SIGNATURE Steve [illegible]

DATE 9-18-95

Figure 44J – UPPER MISSISSIPPI RIVER BASIN BELOW ST. LOUIS

Karst Area

K Local Karst Present

Springs

Losing Stream Reaches

Refer to table 9 for names and mileage of losing streams.

Source: (29), p. 22-24; (39), p. 35; (51); (57)

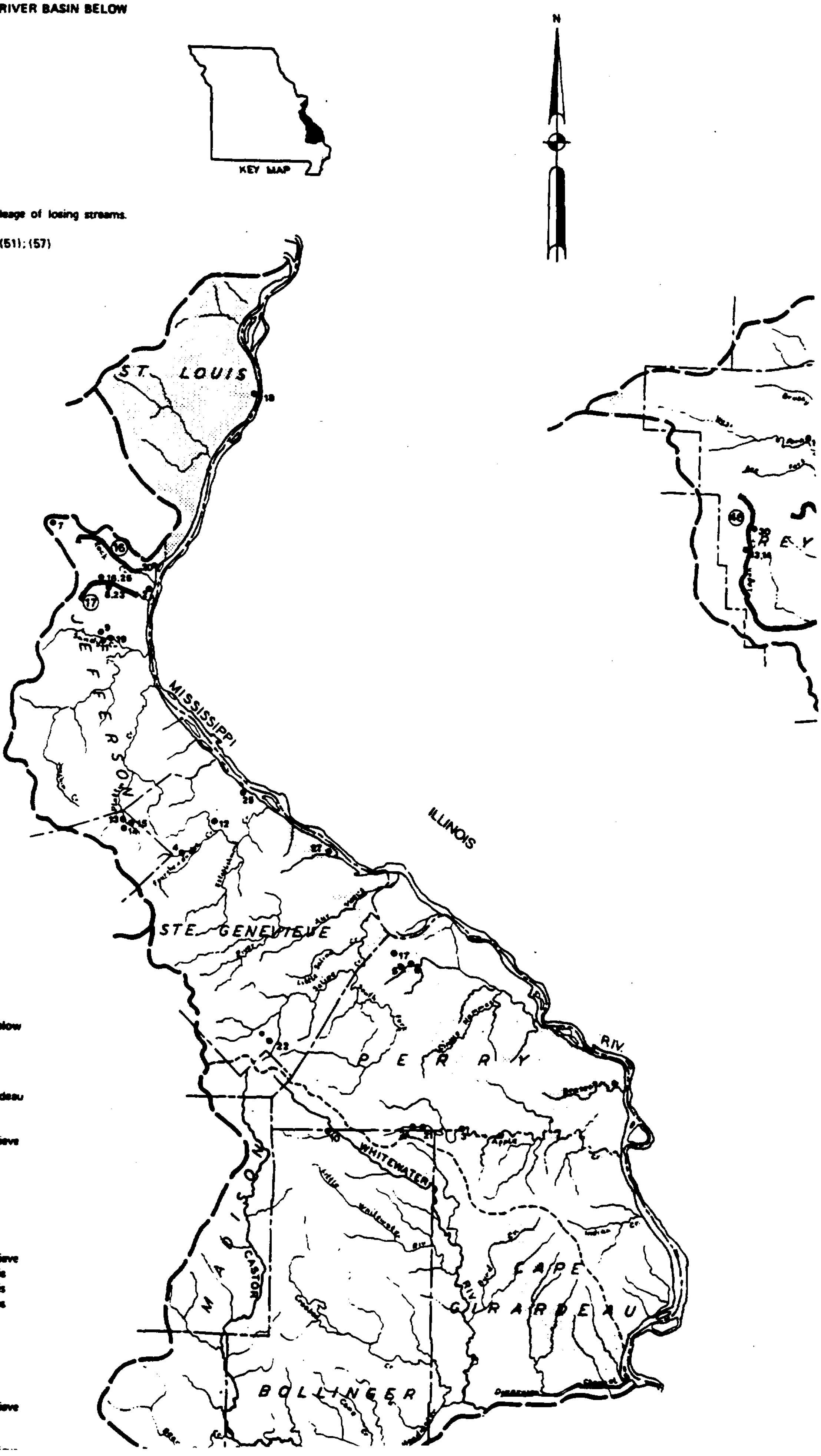
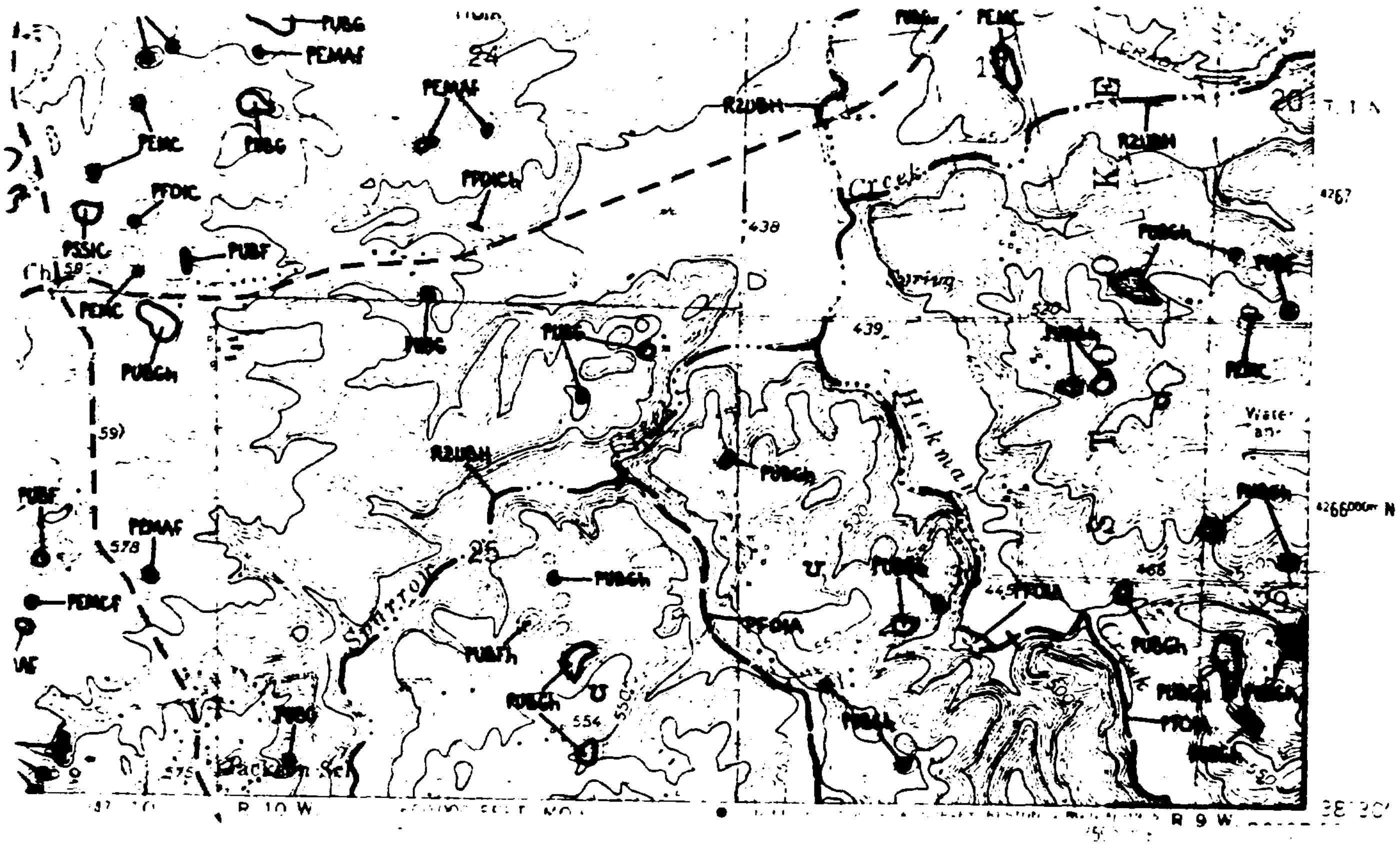


Table 8 – SPRINGS

Map J – Upper Mississippi River Basin Below St. Louis

No.	Spring	County
1	Abernathy	Cape Girardeau
2	Barnhart	Jefferson
3	Berkbigler	Perry
4	Blue	Ste. Genevieve
5	Blue Spring Branch	Perry
6	Blue Spring Branch	Perry
7	Boemler	Jefferson
8	Glatts	Jefferson
9	Glen	Jefferson
10	Hahn	Bollinger
11	Jacobsen	Jefferson
12	Josh Bailey	Ste. Genevieve
13	Koester No. 1	St. Francois
14	Koester No. 2	St. Francois
15	Koester No. 3	St. Francois
16	Kraus	Jefferson
17	Lithium	Perry
18	Market Street	St. Louis
19	Martin	Jefferson
20	Montesano	Jefferson
21	Mrs. Murphy	Perry
22	Nations Mill	Ste. Genevieve
23	Pevely	Jefferson
24	Schumer	Perry
25	Snell Hollow	Ste. Genev

Ref. 27



CAHOKIA, ILL — MO

NOTES TO THE USER

- Subsystems, Classes, Subclasses, and Water Regimes in *Italics* were developed specifically for NATIONAL WETLANDS INVENTORY mapping.
- Some areas designated as R4SB, R4SBW, OR R4SBJ (INTERMITTENT STREAMS) may not meet the definition of wetland.
- This map uses the class Unconsolidated Shore (US). On earlier NWI maps that class was designated Beach/Bar (BB), or Flat (FL). Subclasses remain the same in both versions.

ıIME

U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Prepared by National Wetlands Inventory

Base map provided by the United States Geological Survey.

1993

AERIAL PHOTOGRAPHY

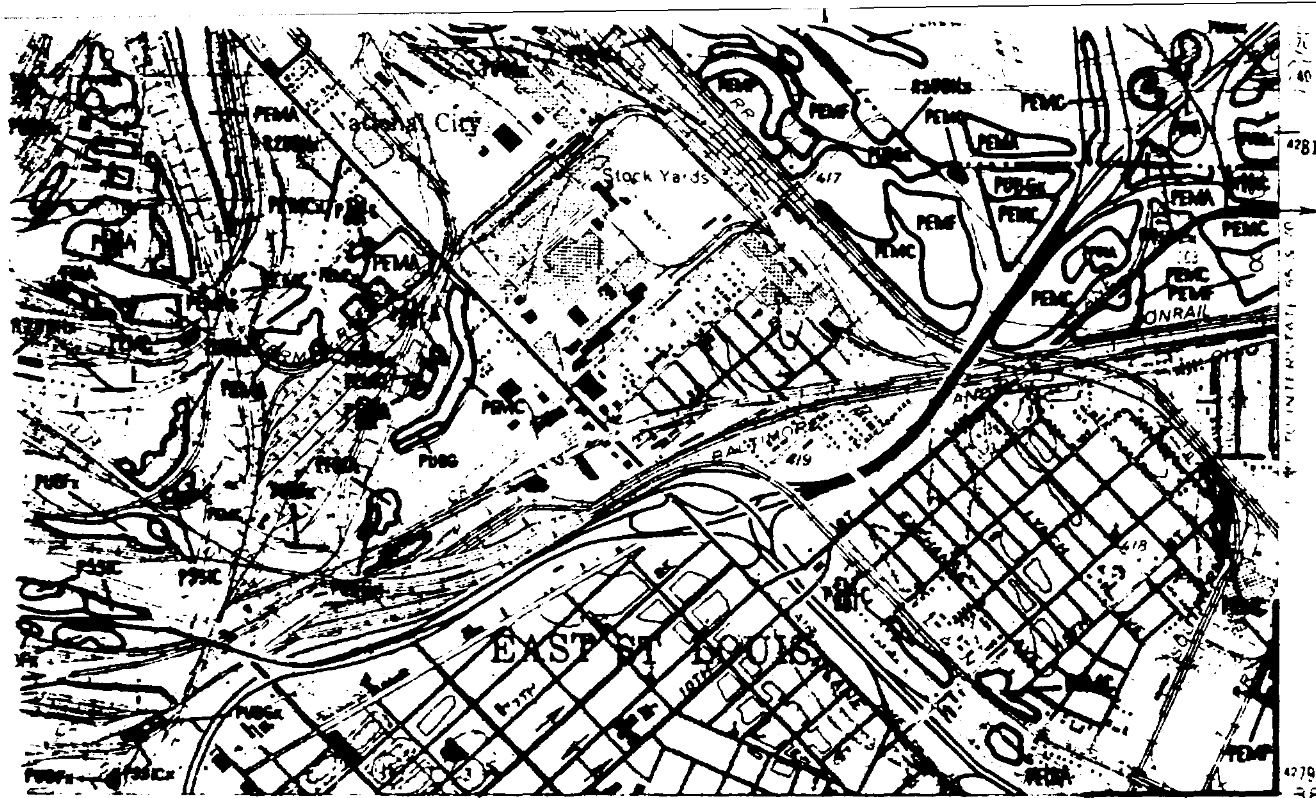
ude un-
ın photo-

DATE:	3 / / 85	DATE:	/ /
SCALE:	1:58 000	SCALE:	
TYPE:	CIR	TYPE:	

E — ESTUARINE | **SYSTEM**

2 — INTERTIDAL | **SUBSYSTEM**

ʼ WATER: vn Bottom	AB — AQUATIC BED	RF — REEF	SB — STREAMBED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED	CLASS
	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	2 Mollusc 3 Worm	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved	Subclass



GRANITE CITY, ILL.–MO.

NOTES TO THE USER

- Subsystems, Classes, Subclasses, and Water Regimes in *Italics* were developed specifically for NATIONAL WETLANDS INVENTORY mapping.
- Some areas designated as R4SB, R4SBW, OR R4SBJ (INTERMITTENT STREAMS) may not meet the definition of wetland.
- This map uses the class Unconsolidated Shore (US). On earlier NWI maps that class was designated Beach/Bar (BB), or Flat (FL). Subclasses remain the same in both versions.

U.S. DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

Prepared by National Wetlands Inventory

Base map provided by the United States Geological Survey.

1993

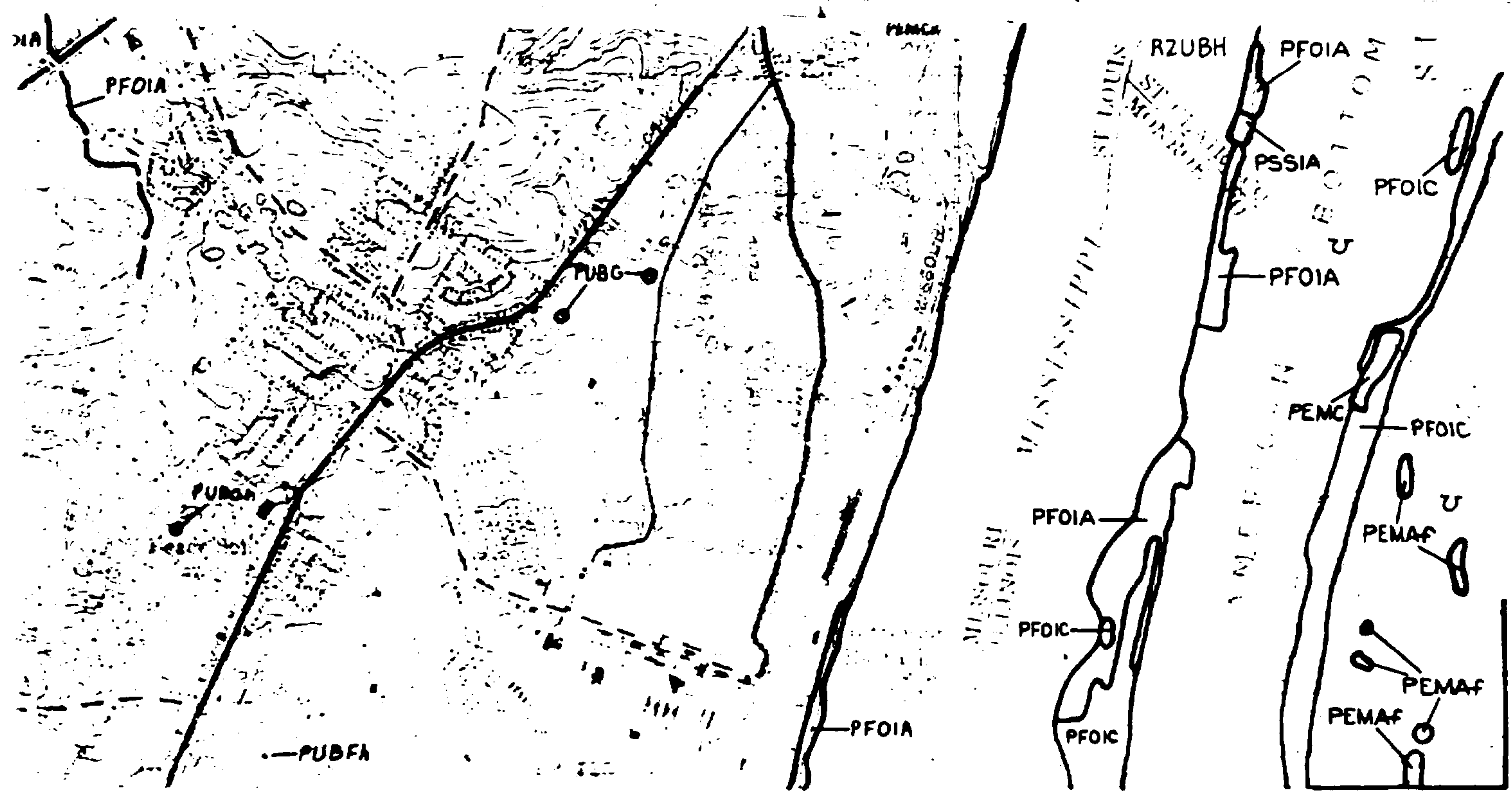
AERIAL PHOTOGRAPHY

DATE	3 / / 85	DATE	/ /
SCALE	1:58 000	SCALE	
TYPE	CIR	TYPE	

– ESTUARINE — SYSTEM

2 — INTERTIDAL — SUBSYSTEM

AB — AQUATIC BED	RF — REEF	SB — STREAMBED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED	CLASS
1 Algal 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	2 Mollusc 3 Worm	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved	Subclass



WEBSTER GROVES, MO.—ILL.

EM
S

LASS WATER REGIME

ON-WETLAND)

WATER HABITAT)

d areas, but may include
as man-modified areas, non
or unintentional omissions

NOTES TO THE USER

- Wetlands which have been field examined are indicated on the map by an asterisk (*).
- Additions or corrections to the wetlands information displayed on this map are solicited. Please forward such information to the address indicated.
- Subsystems, Classes, Subclasses, and Water Regimes in *italics* were developed specifically for NATIONAL WETLANDS INVENTORY mapping.
- Some areas designated as R4SB, R4SBW, OR R4SBJ (INTERMITTENT STREAMS) may not meet the definition of wetland.
- This map uses the class Unconsolidated Shore (US). On earlier NWI maps that class was designated Beach/Bar (BB), or Flat (FL). Subclasses remain the same in both versions.

AERIAL PHOTOGRAPHY

DATE	4 / / 84	DATE:	/ /
SCALE	1:58000	SCALE:	
TYPE	CIR	TYPE:	

U.S. DEPARTMENT OF THE IN

FISH AND WILDLIFE SERVIC

Prepared by National Wetlands Invento

Base map provided by the United States Geolo

1993

E — ESTUARINE

2 — INTERTIDAL

RF — REEF
- Mollusc
- Worm

OW — *OPEN WATER*
Unknown Bottom

AB — AQUATIC BED
1 Algal
3 Rooted Vascular
4 Floating Vascular
5 *Unknown Submergent*
6 *Unknown Surface*

RF — REEF
2 Mollusc
3 Worm

SB — STREAMBED
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic

RS — ROCKY SHORE
1 Bedrock
2 Rubble

US — UNCONSOLIDATED SHORE
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic

EM — EMERGENT
1 Persistent
2 Nonpersistent

SS — SCRUB-SHRUB
1 Broad-Leaved Deciduous
2 Needle-Leaved Deciduous
3 Broad-Leaved Evergreen
4 Needle-Leaved

FO — FORESTED
1 Broad-Leaved Deciduous
2 Needle-Leaved Deciduous
3 Broad-Leaved Evergreen
4 Needle-Leaved

APPENDIX C

CHAIN-OF-CUSTODY FORMS, FIELD SHEETS, AND ANALYSIS REQUEST REPORT FOR ACTIVITY: FB2JJ

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Betty Berry	Carter Carburetor	11+12+13 / 12 / 95	1 of 2

CONTENTS OF SHIPMENT: St. Louis, Mo

SAMPLE NUMBER	1 L CUBITAINER	32 oz BOTTLE	8 oz BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	water	soil	sediment	dust	other (forensic)	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers etc.)
FB2JJ-101	1	2			4 vials 2	✓					
-001	1	2			1	✓					
-001D	1	2			1	✓					
-002	1	2			4 vials 2	✓					
-003F	1	2			4 vials 2	✓					
-004	1	2			1	✓					
-005	1	2			4 vials 2	✓					
-005D	1	2			4 vials 2	✓					
-006	1	2			4 vials 2	✓					
-007	1	2			4 vials 2	✓					
-007D	1	2			4 vials 2	✓					
-008	1	2			4 vials 2	✓					
-009	1	2			4 vials 2	✓					
-010	1	2			4 vials 2	✓					
-011	1	2			4 vials 2	✓					
-018			3		1					✓	
-019			3		1					✓	
	15	30	6		27						

NUMBERS OF CONTAINERS PER SAMPLE NUMBER

DESCRIPTION OF SHIPMENT

80 PIECE(S) CONSISTING OF ______ BOX(ES)

7 ICE CHEST(S); OTHER ______

MODE OF SHIPMENT

___ COMMERCIAL CARRIER: ______

___ COURIER

✓ SAMPLER CONVEYED

______ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Scott Hayes — ☐ SEALED ☑ UNSEALED	12/11/95	1505	Mich [illegible] — ☐ SEALED ☑ UNSEALED	[illegible]
RELINQUISHED BY — ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY — ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY — ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY — ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Betty Berry	Carter Carburetor	11+12+13 / 12 / 95	2 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	CUBITAINER	8oz BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
7B2JJ-100		3			1			✓			
-100D		3			1			✓			
-102		3			1		✓				
-103		3			1		✓				
-104		3			1		✓				
-104D		3			1		✓				
-105		3			1		✓				
-106		3			1			✓			
-107		3			1			✓			
-108		3			1			✓			
-109		3			1		✓				
-110		3			1		✓				
-111		3			1		✓				
-112		1					✓				
-113		3			1		✓				
-114		3			1		✓				
-115		3			1		✓				
-116		3			1		✓				
-117		3			1		✓				
-118		3			1		✓				
-119		3			1		✓				
		61			20						

NUMBERS OF CONTAINERS PER SAMPLE NUMBER

DESCRIPTION OF SHIPMENT	MODE OF SHIPMENT
81 PIECE(S) CONSISTING OF ______ BOX(ES)	______ COMMERCIAL CARRIER: ______
7 ICE CHEST(S); OTHER ______	______ COURIER
	✓ SAMPLER CONVEYED ______ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] ☐ SEALED ☑ UNSEALED	12/14/95	1505	[signature] ☐ SEALED ☑ UNSEALED	[signature]
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 101 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: RINSATE for subsurface soil sampler
LOCATION: St Louis MO
CASE/BATCH/SMO: ______/ /______ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME
BEG:	__/__/__	__:__
END:	12/13/95	13:00

FROM REF PT
EAST: ____
NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES
GLASS	ICED	WS	SEMIVOLATILES
CUBI	5 ML HNO3	WM	METALS
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

rinsate for subsurface soil sampling apparatus

SAMPLE COLLECTED BY : Schademann / Davis

DRAFT FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 001 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Sump - 2

LOCATION: St Louis MO

CASE/BATCH/SMO: ___/_/___ LAB: ___

STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT
BEG:	__/__/__	__:__	EAST: ___
END:	12/11/95	16:00	NORTH: ___
			DOWN: ___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS - 80oz	ICED	WS	SEMIVOLATILES
		W13	LABEL FOR CUBI
~~4~~-40 ML VIALS	HCL+COOL (4 C)	~~W13~~ WV	LDL VOLATILE ORGANIC COMPO
~~4~~-40 ML VIALS	HCL+COOL (4 C)	~~W13~~ WV	LDL VOLATILE ORGANIC COMPO
~~4-40 ML VIALS~~	~~HCL+COOL (4 C)~~	~~W13~~	~~LDL VOLATILE ORGANIC COMPO~~
~~4-40 ML VIALS~~	~~HCL+COOL (4 C)~~	~~W13~~	~~LDL VOLATILE ORGANIC COMPO~~
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS - 80oz	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sump-2 water sample

Eastern most sump in N. Diecast room

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 001 QCC: D MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: DUPLICATE/SAMPLE 001 DATE TIME FROM REF PT
LOCATION: ____________ MO BEG: __/__/__ __:__ EAST: ____
CASE/BATCH/SMO: ____/__/____ LAB: ___ END: 12/11/95 16:00 NORTH: ____
STORET/AIRS NO: ______ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
		W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

See FB2JJ-001

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 002 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: RINSATE of groundwater sampler
LOCATION: St Louis MO
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT	
BEG:	_/_/_	__:__	EAST:	____
END:	12/3/95	14:00	NORTH:	____
			DOWN:	____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
		W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Rinsate of ground water sampling apparatus

SAMPLE COLLECTED BY : Schademann / Davis

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 003 QCC: F MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: ~~TRIP BLANK~~ Field Blank
LOCATION: St Louis MO
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT
BEG:	_/_/_	__:__	EAST: ____
END:	12/13/95	13:30	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
	+ ascorbic acid	W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Field Blank

prepared on the site

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 004 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Sump-1
LOCATION: St. Louis MO
CASE/BATCH/SMO: ____/__/____ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	____
END:	12/1/95	16:00	NORTH:	____
			DOWN:	____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
		W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
~~4-40 ML VIALS~~	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sump-1 water sample
Western most sump in N. diecast room

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

.. : 96 ACTNO: FB2JJ SAMNO: 005 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: probe hole #4 - groundwater
LOCATION: St Louis MO
CASE/BATCH/SMO: ______/_/______ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME
BEG:	_/_/_	_:_
END:	12/12/55	08:00

FROM REF PT
EAST: ____
NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
		W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

probe hole #4 groundwater

NW of site - see probe log for specs

SAMPLE COLLECTED BY : Schademann

DRAFT FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: ~~016~~ 005 QCC: D MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Duplicate of groundwater sample
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/_/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	/ /	:	EAST:	___
END:	12/12/95	08:00	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
		W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

See FB2JJ-005

SAMPLE COLLECTED BY : Schademann

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 006 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: background groundwater
LOCATION: St Louis MO
CASE/BATCH/SMO: ____/__/____ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	____
END:	12/12/95	14:00	NORTH:	____
			DOWN:	____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
		W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Probe hole #6 groundwater

background

Fairground park

SAMPLE COLLECTED BY : Schademann

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 007 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: DW1 - drinking water #1
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/___/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	_/_/_	_:_	EAST:	___
END:	12/13/95	12:00	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
	+ ascorbic acid	W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

- Collected from Boy's Club to N. of site on Dodier Ave
- collected at janitor's sink room #134
- 10 min purge

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

. .: 96 ACTNO: FB2JJ SAMNO: ~~015~~ 007 QCC: D MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: duplicate of BW1

LOCATION: St Louis MO

CASE/BATCH/SMO: ___/___/___ LAB: ___

STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT
BEG:	__/__/__	__:__	EAST: ___
END:	12/13/95	12:00	NORTH: ___
			DOWN: ___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
	+ ascorbic acid	W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

See FB2JJ-007

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 008 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Drinking Water #2 DATE TIME FROM REF PT
LOCATION: St Louis MO BEG: __/__/__ __:__ EAST: ____
CASE/BATCH/SMO: ____/____/____ LAB: ___ END: 12/13/96 12:45 NORTH: ____
STORET/AIRS NO: ______ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
	+ ascorbic acid	W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

- drinking water #2 from
  - Maintenance Control located on onsite building (NW side)
  - Collected from Men's room sink
  - 10 min. purge

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 009 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Drinking water # 3
LOCATION: St Louis MO
CASE/BATCH/SMO: ____/__/____ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT
BEG:	__/__/__	__:__	EAST: ____
END:	12/3/95	13:00	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
	+ ascorbic acid	W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

drinking water #3 collected from
resident @ 3515 B Dodier, St Louis, MO
resident collected sample & would not
offer name or phone

SAMPLE COLLECTED BY : Hayes

DRAFT FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 010 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: ~~Drinking water #4~~ ~~On-site Groundwater (PH-12) #4~~

LOCATION: St Louis MO

CASE/BATCH/SMO: ___/___/___ LAB: ___

STORET/AIRS NO: ___

	DATE	TIME
BEG:	__/__/__	__:__
END:	12/13/95	13:10

FROM REF PT

EAST: ___

NORTH: ___

DOWN: ___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
	+ ascorbic acid	W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

~~On-site groundwater #4~~

- drinking water #4 collected from
- Missionaries of Charity Convent @ Fall + Cottage Av's intersection
- collected from kitchen sink
- 10 min purge

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 011 QCC: _ MEDIA: WATER PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: ___

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: ___

SAMPLE DES: on-site groundwater (PH-12)

LOCATION: St Louis MO

CASE/BATCH/SMO: ___/___/___ LAB: ___

STORET/AIRS NO: ___

	DATE	TIME
BEG:	__/__/__	__:__
END:	12/13/95	15:30

FROM REF PT EAST: ___ NORTH: ___ DOWN: ___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	WS	SEMIVOLATILES
		W13	LABEL FOR CUBI
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
4-40 ML VIALS	HCL+COOL (4 C)	W13	LDL VOLATILE ORGANIC COMPO
1 LITER	HNO3	W05	DRINKING WATER AND SPFD ME
GLASS	ICED	W24	PCB - G. BEEMONT
GLASS	ICED	W24	PCB - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

on-site groundwater sample from probe hole #12

SAMPLE COLLECTED BY : Schadenann / Davis

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 018 QCC: _ MEDIA: HAZWST PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR — REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Drum CC02

LOCATION: St Louis MO

CASE/BATCH/SMO: ______/__/______ LAB: ___

STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	____
END:	12/12/95	15:00	NORTH:	____
			DOWN:	____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
8 OZ		HM	HIGH - CONCENTRATION METAL
2-40 ML VIALS	COOL (4 C)	H03	HAZARDOUS HIGH CONCENTRATI
		H92	BNAS (SEMI-VOLATILES)
8 OZ GLASS	COOL (4 C)	H02	HAZARDOUS PCBS IN OIL

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

dark amber viscous liquid

~ 50 ppm PCBs in Chlor-N-Oil

Drum CC-02

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 019 QCC: _ MEDIA: HAZWST PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Drum CC-04
LOCATION: St Louis MO
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT	
BEG:	_/_/_	_:_	EAST:	____
END:	12/12/95	15:00	NORTH:	____
			DOWN:	____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
8 OZ		HM	HIGH - CONCENTRATION METAL
2-40 ML VIALS	COOL (4 C)	H03	HAZARDOUS HIGH CONCENTRATI
		H92	BNAS (SEMI-VOLATILES)
8 OZ GLASS	COOL (4 C)	H02	HAZARDOUS PCBS IN OIL

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Drum CC-04

lt. ~~red~~ ylw amber viscous liquid

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 100 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Sump-2
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/_/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	_/_/_	_:_	EAST:	___
END:	12/11/95	16:00	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sump-2 sediment/sludge

Easton most sump in N. diecast room

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 100 QCC: D MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: DUPLICATE/SAMPLE 100

LOCATION: St Louis MO

CASE/BATCH/SMO: __/__/__ LAB: __

STORET/AIRS NO: __

	DATE	TIME	FROM REF PT	
BEG:	/ /	:	EAST:	
END:	12/11/95	16:00	NORTH:	
			DOWN:	

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:__ OPERABLE UNIT:__

See FB2JJ 100

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 102 QCC: ~~F~~ SH MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: ~~TRIP BLANK~~ SH Background surface soil #1

		DATE	TIME	FROM REF PT
LOCATION: St Louis MO	BEG:	__/__/__	__:__	EAST: ____
CASE/BATCH/SMO: ____/__/____ LAB: ___	END:	12/12/95	08:00	NORTH: ____
STORET/AIRS NO: ______				DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Background surface soil sample #1

Fairground Park ~ 5 Blocks N. of site

sample:

0-2 inches

200' N + 35' W. of Spring + Natural Bridge Rd intersection

SAMPLE COLLECTED BY : SANCHEZ

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 103 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Background surface Soil #2
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/___/___ LAB: ___
STORET/AIRS NO: ___

DATE TIME
BEG: __/__/__ __:__
END: 12/12/95 08:00

FROM REF PT
EAST: ___
NORTH: ___
DOWN: ___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Background surface Soil sample #2

Fairground Park

0-2 inches

350' E. of Background S.S. #1 see FB2JJ-102

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 104 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Surface soil location 6
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/___/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	___
END:	12/12/95	16:00	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

SS6 (Surface Sample location 6)

West side of site

265' N of St Louis St on W. side of Spring St.

(just on N. side of gate entrance)

0-2"

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: ~~125~~ 104 OCC: D MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Duplicate of FB2JJ-104

LOCATION: St Louis MO

CASE/BATCH/SMO: ___/___/___ LAB: ___

STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	___
END:	12/12/95	16:00	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Duplicate of FB2JJ-104

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 105 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Surface Soil location #11
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/___/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT
BEG:	__/__/__	__:__	EAST: ___
END:	12/13/95	10:30	NORTH: ___
			DOWN: ___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Surface soil location #11

0-3"

50' E. of Grand on University Ave's N. side

E. side of site

SAMPLE COLLECTED BY : Hayes

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 106 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Manhole #7
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/___/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME
BEG:	__/__/__	__:__
END:	12/13/95	08:00

FROM REF PT
EAST: ___
NORTH: ___
DOWN: ___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

- Manhole #7 sediment
- located on N. side of St. Louis Ave. on sidewalk @ intersection of Fall + St. Louis
- S. side of site

SAMPLE COLLECTED BY : Hayes / Davis

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 107 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Manhole # 3
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/___/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT
BEG:	__/__/__	__:__	EAST: ___
END:	12/13/95	08:30	NORTH: ___
			DOWN: ___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

- Manhole # 3 sediment
- located on E side of Spring Ave midway between Dodier + St Louis
- W. side of site

SAMPLE COLLECTED BY : Hayes / Davis

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 108 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: Manhole # 5

LOCATION: St Louis MO

CASE/BATCH/SMO: __/__/__ LAB: ___

STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	___
END:	12/13/95	09:00	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

- Manhole #5 sediment
- located on W. side of Grand off newer addition to E side of building on the site
- E. side of site

SAMPLE COLLECTED BY : Hayes / David

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 109 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: probe Hole #2 (4-6)
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/___/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT
BEG:	__/__/__	__:__	EAST: ___
END:	12/13/95	__:__	NORTH: ___
			DOWN: ___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

probe hole #2

4-6" depth interval

SAMPLE COLLECTED BY : Schademan

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 110 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: PH #2 (10-12)

LOCATION: St Louis MO

CASE/BATCH/SMO: ______/_/______ LAB: ___

STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT	
BEG:	_/_/_	_:_	EAST:	____
END:	12/12/95	_:_	NORTH:	____
			DOWN:	____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Probe hole # 2

10-12 foot depth

SAMPLE COLLECTED BY : Schddemann

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 111 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: PH#2 (16-18)

LOCATION: St Louis MO

CASE/BATCH/SMO: ___/___/___ LAB: ___

STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	___
END:	12/12/95	__:__	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

probe hole #2

16-18' depth interval

SAMPLE COLLECTED BY : Schademann

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 112 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: PH-12 (8-10) DATE TIME FROM REF PT
LOCATION: St Louis MO BEG: __/__/__ __:__ EAST: ____
CASE/BATCH/SMO: ____/__/____ LAB: ___ END: 12/13/95 __:__ NORTH: ____
STORET/AIRS NO: ______ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	~~ICED~~	~~SS~~	~~SEMIVOLATILES~~ ~~JB~~
GLASS	~~ICED~~	~~SM~~	~~METALS~~
2-40 ML VIALS	~~COOL (4 C)~~	~~SV~~	~~SOIL VOLATILES~~
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

probe hole #12

8-10' depth

not enough sample volume for all analyses

SAMPLE COLLECTED BY : Schademann

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 113 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR — REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 — PT: LONGITUDE: __ __ __

SAMPLE DES: PH-6 (6-8) background

LOCATION: St Louis MO

CASE/BATCH/SMO: ____/ /______ LAB: ___

STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT	
BEG:	/ /	__:__	EAST:	____
END:	12/12/95	__:__	NORTH:	____
			DOWN:	____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Background location in Fairground Park

probe hole 6

6-8' depth Interval

SAMPLE COLLECTED BY : Schademann

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 114 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: PH-6 (10-12) background
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/___/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	___
END:	12/12/95	__:__	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Background in Fairground Park

probe hole 6

10-12' depth interval

SAMPLE COLLECTED BY : Schademann

DRAFT

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 115 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: PH 6 (16-18) background
LOCATION: St Louis MO
CASE/BATCH/SMO: ______/_/______ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	____
END:	12/12/95	__:__	NORTH:	____
			DOWN:	____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

background - in Fairground Park
probe hole 6

16-18' depth interval

SAMPLE COLLECTED BY : Schademann

DRAFT FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 116 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: PH-3(8-10)
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/___/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	__/__/__	__:__	EAST:	___
END:	12/12/95	__:__	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Probe hole #3

8-10' depth interval

SAMPLE COLLECTED BY : Schademann

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 117 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: PH-12 (10-12) DATE TIME FROM REF PT
LOCATION: St Louis MO BEG: __/__/__ __:__ EAST: ____
CASE/BATCH/SMO: ______/__/______ LAB: ___ END: 12/13/95 __:__ NORTH: ____
STORET/AIRS NO: _______ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

probe hole 12

10-12' depth interval

SAMPLE COLLECTED BY : Schademann

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 118 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __
LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: pH-7 (16-18)
LOCATION: St Louis MO
CASE/BATCH/SMO: ___/_/___ LAB: ___
STORET/AIRS NO: ___

	DATE	TIME	FROM REF PT	
BEG:	/ /	__:__	EAST:	___
END:	12/12/95	__:__	NORTH:	___
			DOWN:	___

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

probe hole #7

16-18 depth Interval

SAMPLE COLLECTED BY : Schademann

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 96 ACTNO: FB2JJ SAMNO: 119 QCC: _ MEDIA: SOIL PL: BERRY, BETTY

ACTIVITY DES: CARTER CARBURETOR REF LATITUDE: __ __ __

LOCATION: ST. LOUIS MO PROJECT NUM: L33 PT: LONGITUDE: __ __ __

SAMPLE DES: pH-9 (10-12)

LOCATION: ____________ MO

CASE/BATCH/SMO: ____/ /____ LAB: ___

STORET/AIRS NO: ______

	DATE	TIME	FROM REF PT	
BEG:	/ /	__:__	EAST:	____
END:	12/13/95	__:__	NORTH:	____
			DOWN:	____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	S16	PCB'S - G. BEEMONT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

probe hole #9

10-12' depth interval

SAMPLE COLLECTED BY : Schademann

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

JAN 22 1998

MEMORANDUM

SUBJECT: Laboratory Customer Satisfaction Survey

FROM: Andrea Jirka AJ
Chief, LABO/ENSV

TO: Project Leader

All data transmittal packages will now include a Region VII Laboratory Customer Satisfaction Survey form. We are doing this survey in an effort to improve our services to our customers.

Please take a few moments to fill out the survey form on the other side of this memorandum. The information you provide is important to us and will be used to identify our areas of strength, as well as the areas where we need improvement. The form also includes space for written comments, and we encourage you to provide any information which will assist the Laboratory in understanding what you liked or disliked about your data transmittal.

Thank you for taking the time to help us improve our service.

ANALYSIS REQUEST REPORT

FOR ACTIVITY: FB2JJ

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

BERRY, BETTY

01/24/96 14:14:30

ALL REAL SAMPLES AND FIELD Q.C.

* LABO APPROVED

FY: 96 ACTIVITY: FB2JJ DESCRIPTION: CARTER CARBURETOR LOCATION: ST. LOUIS MISSOURI

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: L33

LABO DUE DATE IS 1/13/96. REPORT DUE DATE IS 2/11/96.

INSPECTION DATE: 12/13/95 ALL SAMPLES RECEIVED DATE: 12/14/95

ALL DATA APPROVED BY LABO DATE: 01/24/96 FINAL REPORT TRANSMITTED DATE: 00/00/00

EXPECTED LABO TURNAROUND TIME IS 30 DAYS EXPECTED REPORT TURNAROUND TIME IS 60 DAYS

ACTUAL LABO TURNAROUND TIME IS 41 DAYS ACTUAL REPORT TURNAROUND TIME IS 0 DAYS

SITE CODE: JJ SITE: CARTER CARBURETOR SITE

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		W	SUMP-2	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/11/95	16:00
001	D	W	SUMP-2/DUPLICATE	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/11/95	16:00
002		W	RINSATE OF GROUNDWATER SAMPLER	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	14:00
003	F	W	FIELD BLANK	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	13:30
004		W	SUMP-1	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/11/95	16:00
005		W	PROBE HOLE #4-GROUNDWATER	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	08:00
005	D	W	PROBE HOLE #4-GROUNDWATER/DUPLICATE	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	08:00
006		W	PROBE HOLE #6 BACKGROUND GROUNDWATER	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	14:00
007		W	PW1-DRINKING WATER #1	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	12:00
007	D	W	PW1-DRINKING WATER #1/DUPLICATE	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	12:00
008		W	DRINKING WATER #2	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	12:45
009		W	DRINKING WATER #3	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	13:00
010		W	DRINKING WATER #4	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	13:10
011		W	ON-SITE GROUNDWATER (PH-12)	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	15:30
018		H	DRUM CC02	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	15:00
019		H	DRUM CC04	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	15:00
100		S	SUMP-2	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/11/95	16:00
100	D	S	SUMP-2/DUPLICATE	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/11/95	16:00
101		W	RINSATE FOR SUBSURFACE SOIL SAMPLER	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	13:00
102		S	BACKGROUND SURFACE SOIL #1	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	08:00
103		S	BACKGROUND SURFACE SOIL #2	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	08:00
104		S	SURFACE SOIL LOCATION 6	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	16:00
104	D	S	SURFACE SOIL LOCATION 6/DUPLICATE	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	16:00

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY- ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
105		S	SURFACE SOIL LOCATION #11	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	10:30
106		S	MANHOLE #7	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	08:00
107		S	MANHOLE #3	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	08:30
108		S	MANHOLE #5	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	09:00
109		S	PROBE HOLE #2 (4-6)	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	00:00
110		S	PROBE HOLE #2 (10-12)	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	00:00
111		S	PROBE HOLE #2 (16-18)	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	00:00
112		S	PROBE HOLE #12 (8-10)	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	00:00
113		S	PROBE HOLE #6 (6-8) BACKGROUND	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	00:00
114		S	PROBE HOLE #6 (10-12) BACKGROUND	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	00:00
115		S	PROBE HOLE #6 (16-18) BACKGROUND	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	00:00
116		S	PROBE HOLE #3 (8-10)	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	00:00
117		S	PROBE HOLE #12 (10-12)	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	00:00
118		S	PROBE HOLE #7 (16-18)	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/12/95	00:00
119		S	PROBE HOLE #9 (10-12)	1	ST. LOUIS	MISSOURI				00/00/00	00:00	12/13/95	00:00

EXPLANATION OF CODES AND INFORMATION ON ANALYSIS REQUEST DETAIL REPORT

SAMPLE INFORMATION:

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER (A 3-DIGIT NUMBER WHICH IN COMBINATION WITH THE ACTIVITY NUMBER AND QCC, PROVIDES AN UNIQUE NUMBER FOR EACH SAMPLE FOR IDENTIFICATION PURPOSES)

QCC = QUALITY CONTROL CODE (A ONE-LETTER CODE USED TO DESIGNATE SPECIFIC QC SAMPLES. THIS FIELD WILL BE BLANK FOR ALL NON-QC OR ACTUAL SAMPLES):

- B = CAL INCREASED CONCENTRATION FOR A LAB SPIKED DUP SAMPLE
- D = MEASURED VALUE FOR FIELD DUPLICATE SAMPLE
- F = MEASURED VALUE FOR FIELD BLANK
- G = MEASURED VALUE FOR METHOD STANDARD
- H = TRUE VALUE FOR METHOD STANDARD
- K = CAL INCREASED CONCENTRATION FOR FIELD SPIKED DUP SAMPLE
- L = MEASURED VALUE FOR A LAB DUPLICATE SAMPLE
- M = MEASURED VALUE FOR LAB BLANK
- N = MEASURED CONCENTRATION OF FIELD SPIKED DUPLICATE
- P = MEASURED VALUE FOR PERFORMANCE STANDARD
- R = CAL INCREASED CONCENTRATION RESULTING FROM LAB SPIKE
- S = MEASURED CONCENTRATION OF LAB SPIKED SAMPLE
- T = TRUE VALUE OF PERFORMANCE STANDARD
- W = MEASURED CONCENTRATION OF LAB SPIKED DUPLICATE
- Y = MEASURED CONCENTRATION OF FIELD SPIKED SAMPLE
- Z = CAL INCREASED CONCENTRATION RESULTING FROM FIELD SPIKE
- 1 = MEASURED VALUE OF FIRST SPIKED REPLICATE
- 2 = MEASURED VALUE OF SECOND SPIKED REPLICATE
- 3 = MEASURED VALUE OF THIRD SPIKED REPLICATE
- 4 = MEASURED VALUE OF FOURTH SPIKED REPLICATE
- 5 = MEASURED VALUE OF FIFTH SPIKED REPLICATE
- 6 = MEASURED VALUE OF SIXTH SPIKED REPLICATE
- 7 = MEASURED VALUE OF SEVENTH SPIKED REPLICATE

M = MEDIA CODE (A ONE-LETTER CODE DESIGNATING THE MEDIA OF THE SAMPLE):

- A = AIR   H = HAZARDOUS WASTE/OTHER
- S = SOLID (SOIL, SEDIMENT, SLUDGE)
- T = TISSUE (PLANT & ANIMAL)
- W = WATER (GROUND WATER, SURFACE WATER, WASTE WATER, DRINKING WATER)

DESCRIPTION = A SHORT DESCRIPTION OF THE LOCATION WHERE SAMPLE WAS COLLECTED

AIRS/STORET LOC. NO. = THE SPECIFIC LOCATION ID NUMBER OF EITHER OF THESE NATIONAL DATABASE SYSTEMS, AS APPROPRIATE

DATE/TIME INFORMATION = SPECIFIC INFORMATION REGARDING WHEN THE SAMPLE WAS COLLECTED

- BEG. DATE = DATE SAMPLING WAS STARTED
- BEG. TIME = TIME SAMPLING WAS STARTED
- END DATE = DATE SAMPLING WAS COMPLETED
- END TIME = TIME SAMPLING WAS COMPLETED
- NOTE: A GRAB SAMPLE WILL CONTAIN ONLY BEG. DATE/TIME
  A TIMED COMPOSITE SAMPLE WILL CONTAIN BOTH BEG AND END DATE/TIME TO DESIGNATE DURATION OF SAMPLE COLLECTION

OTHER CODES

- V = VALIDATED

ANALYTICAL RESULTS/MEASUREMENTS INFORMATION:

COMPOUND = MGP (MEDIA-GROUP-PARAMETER) CODE AND NAME OF THE MEASURED CONSTITUENT OR CHARACTERISTIC OF EACH SAMPLE

UNITS = SPECIFIC UNITS IN WHICH RESULTS ARE REPORTED:

- C = CENTIGRADE (CELSIUS) DEGREES
- CFS = CUBIC FEET PER SECOND
- GPM = GALLONS PER MINUTE
- IN = INCHES
- I.D. = SPECIES IDENTIFICATION
- KG = KILOGRAM
- L = LITER
- LB = POUNDS
- MG = MILLIGRAMS (1 X 10-3 GRAMS)
- MGD = MILLION GALLONS PER DAY
- MPH = MILES PER HOUR
- MV = MILLIVOLT
- M/F = MALE/FEMALE
- M2 = SQUARE METER
- M3 = CUBIC METER
- NA = NOT APPLICABLE
- NG = NANOGRAMS (1 X 10-9 GRAMS)
- NTU = NEPHELOMETRIC TURBIDITY UNITS
- PC/L = PICO (1 X 10-12) CURRIES PER LITER
- PG = PICOGRAMS (1 X 10-12 GRAMS)
- P/CM2 = PICOGRAMS PER SQUARE CENTIMETER
- SCM = STANDARD CUBIC METER (1 ATM, 25 C)
- SQ FT = SQUARE FEET
- SU = STANDARD UNITS (PH)
- UG = MICROGRAMS (1 X 10-6 GRAMS)
- UMHOS = MICROMHOS/CM (CONDUCTIVITY UNITS)
- U/CC2 = MICROGRAMS PER 100 SQUARE CENTIMETERS
- U/CM2 = MICROGRAMS PER SQUARE CENTIMETER
- 1000G = 1000 GALLONS
- +/- = POSITIVE/NEGATIVE
- # = NUMBER

DATA QUALIFIERS = SPECIFIC CODES USED IN CONJUNCTION WITH DATA VALUES TO PROVIDE ADDITIONAL INFORMATION ON THE REPORTED RESULTS, OR USED TO EXPLAIN THE ABSENCE OF A SPECIFIC VALUE:

- BLANK = IF FIELD IS BLANK, NO REMARKS OR QUALIFIERS ARE PERTINENT. FOR FINAL REPORTED DATA, THIS MEANS THAT THE VALUES HAVE BEEN REVIEWED AND FOUND TO BE ACCEPTABLE FOR USE.
- I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
- J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES
- K = ACTUAL VALUE OF SAMPLE IS < VALUE REPORTED
- L = ACTUAL VALUE OF SAMPLE IS > VALUE REPORTED
- M = DETECTED BUT BELOW THE LEVEL OF REPORTED VALUE FOR ACCURATE QUANTIFICATION
- O = PARAMETER NOT ANALYZED
- U = ACTUAL VALUE OF SAMPLE IS < THE MEASUREMENT DETECTION LIMIT (REPORTED VALUE)

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	001		001 D		002		003 F		004	
WM01 SILVER, TOTAL, BY ICAP	UG/L	7.88	U	7.88	U	7.88	U	7.88	U	7.88	U
WM02 ALUMINUM, TOTAL, BY ICAP	UG/L	346		1130		80.8		50.7	U	3750	
WM04 BARIUM, TOTAL, BY ICAP	UG/L	20.6		39.6		3.94	U	3.94	U	78.7	
WM05 BERYLLIUM, TOTAL, BY ICAP	UG/L	0.995	U	0.995	U	0.995	U	0.995	U	0.995	U
WM06 CADMIUM, TOTAL, BY ICAP	UG/L	3.69	U	5.82		3.69	U	3.69	U	8.65	
WM07 COBALT, TOTAL, BY ICAP	UG/L	5.31	U	5.63		5.31	U	5.31	U	5.31	U
WM08 CHROMIUM, TOTAL, BY ICAP	UG/L	14.2	U	16.4	U	14.2	U	14.2	U	15.7	
WM09 COPPER, TOTAL, BY ICAP	UG/L	16.3		52.4		8.32	U	8.32	U	61.6	
WM10 IRON, TOTAL, BY ICAP	UG/L	1110		5950		383		458		10500	
WM11 MANGANESE, TOTAL, BY ICAP	UG/L	374		545		10.8		3.03		251	
WM12 MOLYBDENUM, TOTAL, BY ICAP	UG/L	5.62	U	5.62	U	5.62	U	5.62	U	5.62	U
WM13 NICKEL, TOTAL, BY ICAP	UG/L	11.5	U	11.9		11.5	U	11.5	U	11.6	
WM17 TITANIUM, TOTAL, BY ICAP	UG/L	15.2	U	16.1		15.2	U	15.2	U	20.0	
WM19 VANADIUM, TOTAL, BY ICAP	UG/L	2.51	U	2.51	U	2.51	U	2.51	U	2.51	U
WM20 ZINC, TOTAL, BY ICAP	UG/L	662		1740		12.1		10.8	U	3850	
WM21 CALCIUM, TOTAL, BY ICAP	MG/L	52.3		58.3		1.10	U	1.10	U	48.5	
WM22 MAGNESIUM, TOTAL, BY ICAP	MG/L	5.11		5.63		1.03	U	1.03	U	6.37	
WM23 SODIUM, TOTAL, BY ICAP	MG/L	5.62		5.83		1.80		1.61	U	4.72	
WM24 POTASSIUM, TOTAL, BY ICAP	MG/L	3.32		3.46		1.04	U	1.04	U	4.44	
WM27 ARSENIC, TOTAL, BY AA	UG/L	1.66	U	1.66	U	1.70		1.66	U	1.66	U
WM30 LEAD, TOTAL, BY AA	UG/L	16.2		63.3		0.557	U	0.557	U	25.6	
WM31 ANTIMONY, TOTAL, BY AA	UG/L	4.37	U	4.37	U	4.37	U	4.37	U	4.37	U
WM32 SELENIUM, TOTAL, BY AA	UG/L	1.81	U	1.81	U	1.81	U	1.81	U	1.81	U
WM33 THALLIUM, TOTAL, BY AA	UG/L	1.44	U	1.44	U	1.44	U	1.44	U	1.44	U
WP17 PCB-AROCLOR 1016	UG/L	3.5	U	8800	U	0.35	U	0.35	U	7.0	U
WP18 PCB-AROCLOR 1221	UG/L	3.0	U	7500	U	0.30	U	0.30	U	6.0	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	001		001 D		002		003 F		004	
WP19 PCB-AROCLOR 1232	UG/L	1.0	U	2500	U	0.10	U	0.10	U	2.0	U
WP20 PCB-AROCLOR 1242	UG/L	0.95	U	2400	U	0.095	U	0.095	U	1.9	U
WP21 PCB-AROCLOR 1248	UG/L	29		44000		0.14	U	0.14	U	51	
WP22 PCB-AROCLOR 1254	UG/L	0.44	U	1100	U	0.10	U	0.11	U	0.88	U
WP23 PCB-AROCLOR 1260	UG/L	0.62	U	1600	U	0.062	U	0.062	U	1.2	U
WS01 PHENOL, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS04 CHLOROPHENOL, 2-	UG/L	10	U	10	U	10	U	10	U	10	U
WS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS06 DICHLOROBENZENE,1,4-	UG/L	10	U	10	U	10	U	10	U	10	U
WS07 BENZYL ALCOHOL	UG/L	10	U	10	U	10	U	10	U	10	U
WS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/L	10	U	10	U	10	U	10	U	10	U
WS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/L	10	U	10	U	10	U	10	U	10	U
WS12 N-NITROSODIPROPYLAMINE	UG/L	10	U	10	U	10	U	10	U	10	U
WS13 HEXACHLOROETHANE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS14 NITROBENZENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS15 ISOPHORONE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS16 NITROPHENOL,2-	UG/L	10	U	10	U	10	U	10	U	10	U
WS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS18 BENZOIC ACID, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS20 DICHLOROPHENOL, 2,4-	UG/L	10	U	10	U	10	U	10	U	10	U
WS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS22 NAPHTHALENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	001		001 D		002		003 F		004	
WS23 CHLOROANILINE,4-	UG/L	10	U	10	U	10	U	10	U	10	U
WS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS25 PHENOL,4-CHLORO-3-METHYL	UG/L	10	U	10	U	10	U	10	U	10	U
WS26 METHYLNAPHTHALENE, 2-	UG/L	10	U	10	U	10	U	10	U	10	U
WS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS28 TRICHLOROPHENOL,2,4,6	UG/L	10	U	10	U	10	U	10	U	10	U
WS29 TRICHLOROPHENOL,2,4,5	UG/L	25	U	25	U	25	U	25	U	25	U
WS30 CHLORONAPHTHALENE, 2-	UG/L	10	U	10	U	10	U	10	U	10	U
WS31 NITROANILINE,2-(ORTHO)	UG/L	25	U	25	U	25	U	25	U	25	U
WS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS33 ACENAPHTHYLENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS34 NITROANILINE,3-	UG/L	25	U	25	U	25	U	25	U	25	U
WS35 ACENAPHTHENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS36 DINITROPHENOL,2,4, BY GC/MS	UG/L	25	U	25	U	25	U	25	U	25	U
WS37 NITROPHENOL,4-	UG/L	25	U	25	U	25	U	25	U	25	U
WS38 DIBENZOFURAN	UG/L	10	U	10	U	10	U	10	U	10	U
WS39 DINITROTOLUENE,2,4, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS40 DINITROTOLUENE,2,6-	UG/L	10	U	10	U	10	U	10	U	10	U
WS41 PHTHALATE, DIETHYL, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/L	10	U	10	U	10	U	10	U	10	U
WS43 FLUORENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS44 NITROANILINE,4-	UG/L	25	U	25	U	25	U	25	U	25	U
WS45 PHENOL,4,6-DINITRO-2-METHYL	UG/L	25	U	25	U	25	U	25	U	25	U
WS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS47 ETHER, 4-BROMOPHENYL PHENYL	UG/L	10	U	10	U	10	U	10	U	10	U
WS48 HEXACHLOROBENZENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U

COMPOUND	UNITS	001		001 D		002		003 F		004	
WS49 PENTACHLOROPHENOL, BY GC/MS	UG/L	25	U	25	U	25	U	25	U	25	U
WS50 PHENANTHRENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS51 ANTHRACENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS53 FLUORANTHENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS54 PYRENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS55 PHTHALATE, BUTYL BENZYL	UG/L	10	U	10	U	10	U	10	U	10	U
WS56 DICHLOROBENZIDINE, 3,3'	UG/L	10	U	10	U	10	U	10	U	10	U
WS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS59 CHRYSENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS63 PYRENE, BENZO(A), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS64 PYRENE, INDENO(1,2,3-CD)	UG/L	10	U	10	U	10	U	10	U	10	U
WS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1	U	1	U	1	U	1	U	1	U
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	2	U	2	U	2	U	2	U	2	U
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1	U	1	U	1	U	1	U	1	U
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2	U	2	U	2	U	2	U	2	U
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1	U	1	U	1	U	1	U	1	U
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	2	U	2	U	2	U	2	U	2	U
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	2		2		0.4	U	0.4	U	0.8	
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U

COMPOUND	UNITS	001		001 D		002		003 F		004	
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
WW54 BENZENE, BY GC/MS LDL	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
WW65 ACETONE, BY GC/MS LDL	UG/L	9	U	9	U	9	U	9	U	9	U
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1	U	1	U	1	U	1	U	1	U
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3	U	3	U	3	U	3	U	3	U
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3	U	3	U	3	U	3	U	3	U
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
WW70 STYRENE, BY GC/MS LDL	UG/L	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.5	U	0.8		0.5	U	0.5	U	0.5	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	001		001 D		002		003 F		004	
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
ZZ01 SAMPLE NUMBER	NA	001		001		002		003		004	
ZZ02 ACTIVITY CODE	NA	FB2JJ		FB2JJ		FB2JJ		FB2JJ		FB2JJ	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	005		005 D		006		007		007 D	
WM01 SILVER, TOTAL, BY ICAP	UG/L	7.88	U	7.88	U	7.88	U	7.88	U	7.88	U
WM02 ALUMINUM, TOTAL, BY ICAP	UG/L	3010		8990		13800		102		51.3	
WM04 BARIUM, TOTAL, BY ICAP	UG/L	118		213		292		10.1		11.1	
WM05 BERYLLIUM, TOTAL, BY ICAP	UG/L	0.995	U	0.995	U	0.995	U	0.995	U	0.995	U
WM06 CADMIUM, TOTAL, BY ICAP	UG/L	3.69	U	3.69	U	3.69	U	3.69	U	3.69	U
WM07 COBALT, TOTAL, BY ICAP	UG/L	5.31	U	5.31	U	8.49		5.31	U	5.31	U
WM08 CHROMIUM, TOTAL, BY ICAP	UG/L	14.2	U	26.0		19.7		14.2	U	14.2	U
WM09 COPPER, TOTAL, BY ICAP	UG/L	8.32	U	8.32	U	8.32	U	8.32	U	8.32	U
WM10 IRON, TOTAL, BY ICAP	UG/L	3200		8730		16900		65.9	U	65.9	U
WM11 MANGANESE, TOTAL, BY ICAP	UG/L	183		504		664		1.53	U	1.53	U
WM12 MOLYBDENUM, TOTAL, BY ICAP	UG/L	5.62	U	5.62	U	5.62	U	5.62	U	5.62	U
WM13 NICKEL, TOTAL, BY ICAP	UG/L	31.3		67.2		24.9		11.5	U	11.5	U
WM17 TITANIUM, TOTAL, BY ICAP	UG/L	71.2		162		347		15.2	U	15.2	U
WM19 VANADIUM, TOTAL, BY ICAP	UG/L	9.38		28.6		22.1		2.51	U	2.51	U
WM20 ZINC, TOTAL, BY ICAP	UG/L	156		175		166		30.3		32.3	
WM21 CALCIUM, TOTAL, BY ICAP	MG/L	135		149		109		23.6		24.3	
WM22 MAGNESIUM, TOTAL, BY ICAP	MG/L	25.7		27.5		52.1		22.1		22.5	
WM23 SODIUM, TOTAL, BY ICAP	MG/L	47.2		47.3		50.2		64.2		67.3	
WM24 POTASSIUM, TOTAL, BY ICAP	MG/L	5.33		6.78		3.73		5.57		5.65	
WM27 ARSENIC, TOTAL, BY AA	UG/L	1.66	U	1.66	U	1.66	U	1.66	U	1.66	U
WM30 LEAD, TOTAL, BY AA	UG/L	2.60		6.40		6.90		1.70		0.600	
WM31 ANTIMONY, TOTAL, BY AA	UG/L	4.37	U	4.37	U	4.37	U	4.37	U	4.37	U
WM32 SELENIUM, TOTAL, BY AA	UG/L	1.81	U	1.81	U	1.81	U	1.81	U	1.81	U
WM33 THALLIUM, TOTAL, BY AA	UG/L	1.44	U	1.44	U	1.44	U	1.44	U	1.44	U
WP17 PCB-AROCLOR 1016	UG/L	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
WP18 PCB-AROCLOR 1221	UG/L	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	005		005 D		006		007		007 D	
WP19 PCB-AROCLOR 1232	UG/L	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
WP20 PCB-AROCLOR 1242	UG/L	0.095	U	0.095	U	0.095	U	0.095	U	0.095	U
WP21 PCB-AROCLOR 1248	UG/L	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
WP22 PCB-AROCLOR 1254	UG/L	0.10	U	0.11	U	0.11	U	0.11	U	0.11	U
WP23 PCB-AROCLOR 1260	UG/L	0.062	U	0.062	U	0.062	U	0.062	U	0.062	U
WS01 PHENOL, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS04 CHLOROPHENOL, 2-	UG/L	10	U	10	U	10	U	10	U	10	U
WS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS06 DICHLOROBENZENE,1,4-	UG/L	10	U	10	U	10	U	10	U	10	U
WS07 BENZYL ALCOHOL	UG/L	10	U	10	U	10	U	10	U	10	U
WS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/L	10	U	10	U	10	U	10	U	10	U
WS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/L	10	U	10	U	10	U	10	U	10	U
WS12 N-NITROSODIPROPYLAMINE	UG/L	10	U	10	U	10	U	10	U	10	U
WS13 HEXACHLOROETHANE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS14 NITROBENZENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS15 ISOPHORONE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS16 NITROPHENOL,2-	UG/L	10	U	10	U	10	U	10	U	10	U
WS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS18 BENZOIC ACID, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS20 DICHLOROPHENOL, 2,4-	UG/L	10	U	10	U	10	U	10	U	10	U
WS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS22 NAPHTHALENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	005		005 D		006		007		007 D	
WS23 CHLOROANILINE,4-	UG/L	10	U	10	U	10	U	10	U	10	U
WS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS25 PHENOL,4-CHLORO-3-METHYL	UG/L	10	U	10	U	10	U	10	U	10	U
WS26 METHYLNAPHTHALENE, 2-	UG/L	10	U	10	U	10	U	10	U	10	U
WS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS28 TRICHLOROPHENOL,2,4,6	UG/L	10	U	10	U	10	U	10	U	10	U
WS29 TRICHLOROPHENOL,2,4,5	UG/L	25	U	25	U	25	U	25	U	25	U
WS30 CHLORONAPHTHALENE, 2-	UG/L	10	U	10	U	10	U	10	U	10	U
WS31 NITROANILINE,2-(ORTHO)	UG/L	25	U	25	U	25	U	25	U	25	U
WS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS33 ACENAPHTHYLENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS34 NITROANILINE,3-	UG/L	25	U	25	U	25	U	25	U	25	U
WS35 ACENAPHTHENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS36 DINITROPHENOL,2,4, BY GC/MS	UG/L	25	U	25	U	25	U	25	U	25	U
WS37 NITROPHENOL,4-	UG/L	25	U	25	U	25	U	25	U	25	U
WS38 DIBENZOFURAN	UG/L	10	U	10	U	10	U	10	U	10	U
WS39 DINITROTOLUENE,2,4, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS40 DINITROTOLUENE,2,6-	UG/L	10	U	10	U	10	U	10	U	10	U
WS41 PHTHALATE, DIETHYL, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/L	10	U	10	U	10	U	10	U	10	U
WS43 FLUORENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS44 NITROANILINE,4-	UG/L	25	U	25	U	25	U	25	U	25	U
WS45 PHENOL,4,6-DINITRO-2-METHYL	UG/L	25	U	25	U	25	U	25	U	25	U
WS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS47 ETHER, 4-BROMOPHENYL PHENYL	UG/L	10	U	10	U	10	U	10	U	10	U
WS48 HEXACHLOROBENZENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	005		005 D		006		007		007 D	
WS49 PENTACHLOROPHENOL, BY GC/MS	UG/L	25	U	25	U	25	U	25	U	25	U
WS50 PHENANTHRENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS51 ANTHRACENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS53 FLUORANTHENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS54 PYRENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS55 PHTHALATE, BUTYL BENZYL	UG/L	10	U	10	U	10	U	10	U	10	U
WS56 DICHLOROBENZIDINE, 3,3'	UG/L	10	U	10	U	10	U	10	U	10	U
WS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS59 CHRYSENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS63 PYRENE, BENZO(A), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS64 PYRENE, INDENO(1,2,3-CD)	UG/L	10	U	10	U	10	U	10	U	10	U
WS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	10	U
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1	U	1	U	1	U	1	U	1	U
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	2	U	2	U	2	U	2	U	2	U
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1	U	1	U	1	U	1	U	1	U
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2	U	2	U	2	U	2	U	2	U
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1	U	1	U	1	U	1	U	1	U
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	2	U	2	U	2	U	2	U	2	U
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	4		5	

COMPOUND	UNITS	005	005 D	006	007	007 D
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.3 U	0.3 U	0.3 U	2	2
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
WW54 BENZENE, BY GC/MS LDL	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.3 U	0.3 U	0.3 U	0.4	0.3 U
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
WW65 ACETONE, BY GC/MS LDL	UG/L	9 U	9 U	9 U	9 U	9 U
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1 U	1 U	1 U	1 U	1 U
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3 U	3 U	3 U	3 U	3 U
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3 U	3 U	3 U	3 U	3 U
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
WW70 STYRENE, BY GC/MS LDL	UG/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	005		005 D		006		007		007 D	
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
ZZ01 SAMPLE NUMBER	NA	005		005		006		007		007	
ZZ02 ACTIVITY CODE	NA	FB2JJ		FB2JJ		FB2JJ		FB2JJ		FB2JJ	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008	009	010	011	018	
HM01 SILVER, TOTAL, BY ICAP	MG/KG					0.615	U
HM02 ALUMINUM, TOTAL, BY ICAP	MG/KG					2.00	U
HM03 ARSENIC, TOTAL, BY ICAP	MG/KG					0.950	U
HM04 BARIUM, TOTAL, BY ICAP	MG/KG					3.56	U
HM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG					0.139	U
HM06 CADMIUM, TOTAL, BY ICAP	MG/KG					0.487	U
HM07 COBALT, TOTAL, BY ICAP	MG/KG					0.664	U
HM08 CHROMIUM, TOTAL, BY ICAP	MG/KG					0.908	U
HM09 COPPER, TOTAL, BY ICAP	MG/KG					0.094	
HM10 IRON, TOTAL, BY ICAP	MG/KG					32.3	
HM11 MANGANESE, TOTAL, BY ICAP	MG/KG					2.70	U
HM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG					0.393	U
HM13 NICKEL, TOTAL, BY ICAP	MG/KG					0.535	U
HM14 LEAD, TOTAL, BY ICAP	MG/KG					0.702	U
HM15 ANTIMONY, TOTAL, BY ICAP	MG/KG					0.561	U
HM16 SELENIUM, BY ICAP	MG/KG					3.09	U
HM18 THALLIUM, TOTAL BY ICAP	MG/KG					3.15	U
HM19 VANADIUM, TOTAL, BY ICAP	MG/KG					3.05	U
HM20 ZINC, TOTAL BY ICAP	MG/KG					2.34	U
HM21 CALCIUM, TOTAL, BY ICAP	MG/KG					39.0	U
HM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG					22.4	U
HM23 SODIUM, TOTAL, BY ICAP	MG/KG					40.0	U
HM24 POTASSIUM, TOTAL, BY ICAP	MG/KG					25.5	U
HP17 PCB-AROCLOR 1016	MG/KG					4.2	U
HP18 PCB-AROCLOR 1221	MG/KG					2.8	U
HP19 PCB-AROCLOR 1232	MG/KG					2.4	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008	009	010	011	018	
HP20 PCB-AROCLOR 1242	MG/KG					0.80	U
HP21 PCB-AROCLOR 1248	MG/KG					10	
HP22 PCB-AROCLOR 1254	MG/KG					0.36	U
HP23 PCB-AROCLOR 1260	MG/KG					8.4	
HS01 PHENOL	MG/KG					200	U
HS03 ETHER,BIS(2-CHLOROETHYL)	MG/KG					200	U
HS04 CHLOROPHENOL, 2-	MG/KG					200	U
HS05 DICHLOROBENZENE,1,3-	MG/KG					200	U
HS06 DICHLOROBENZENE,1,4-	MG/KG					200	U
HS07 BENZYL ALCOHOL	MG/KG					200	U
HS08 DICHLOROBENZENE,1,2-	MG/KG					200	U
HS09 CRESOL, ORTHO(2-METHYLPHENOL)	MG/KG					200	U
HS10 ETHER,BIS(2-CHLOROISOPROPYL)	MG/KG					200	U
HS11 CRESOL, PARA-(4-METHYLPHENOL)	MG/KG					200	U
HS12 N-NITROSODIPROPYLAMINE	MG/KG					200	U
HS13 HEXACHLOROETHANE	MG/KG					200	U
HS14 NITROBENZENE	MG/KG					200	U
HS15 ISOPHORONE	MG/KG					200	U
HS16 NITROPHENOL,2-	MG/KG					200	U
HS17 DIMETHYLPHENOL, 2,4-	MG/KG					200	U
HS18 BENZOIC ACID	MG/KG					500	U
HS19 METHANE, BIS(2-CHLOROETHYOXY)	MG/KG					200	U
HS20 DICHLOROPHENOL, 2,4-	MG/KG					200	U
HS21 TRICHLOROBENZENE, 1,2,4-	MG/KG					200	U
HS22 NAPHTHALENE	MG/KG					200	U
HS23 CHLOROANILINE, 4-	MG/KG					200	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008	009	010	011	018	
HS24 HEXACHLOROBUTADIENE	MG/KG					200	U
HS25 4-CHLORO-3-METHYLPHENOL	MG/KG					200	U
HS26 METHYLNAPHTHALENE, 2-	MG/KG					200	U
HS27 HEXACHLOROCYCLOPENTADIENE	MG/KG					200	U
HS28 TRICHLOROPHENOL, 2,4,6-	MG/KG					200	U
HS29 TRICHLOROPHENOL, 2,4,5-	MG/KG					500	U
HS30 CHLORONAPHTHALENE, 2-	MG/KG					200	U
HS31 NITROANILINE,2-	MG/KG					500	U
HS32 PHTHALATE, DIMETHYL	MG/KG					200	U
HS33 ACENAPHTHYLENE, BY GC/MS	MG/KG					200	U
HS34 NITROANILINE,3-	MG/KG					500	U
HS35 ACENAPHTHENE, BY GC/MS	MG/KG					200	U
HS36 DINITROPHENOL, 2,4-	MG/KG					500	U
HS37 NITROPHENOL,4-	MG/KG					500	U
HS38 DIBENZOFURAN	MG/KG					200	U
HS39 DINITROTOLUENE, 2,4-	MG/KG					200	U
HS40 DINITROTOLUENE,2,6-	MG/KG					200	U
HS41 PHTHALATE, DIETHYL	MG/KG					200	U
HS42 ETHER, 4-CHLOROPHENYL PHENYL	MG/KG					200	U
HS43 FLUORENE, BY GC/MS	MG/KG					200	U
HS44 NITROANILINE,4-	MG/KG					500	U
HS45 PHENOL, 4,6- DINITRO-2-	MG/KG					500	U
HS46 N-NITROSODIPHENYLAMINE	MG/KG					200	U
HS47 ETHER, 4-BROMOPHENYL PHENYL	MG/KG					200	U
HS48 HEXACHLOROBENZENE	MG/KG					200	U
HS49 PENTACHLOROPHENOL	MG/KG					500	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008	009	010	011	018
HS50 PHENANTHRENE	MG/KG					520
HS51 ANTHRACENE, BY GC/MS	MG/KG					200 U
HS52 PHTHALATE, DI-N-BUTYL-	MG/KG					200 U
HS53 FLUORANTHENE, BY GC/MS	MG/KG					200 U
HS54 PYRENE	MG/KG					200 U
HS55 PHTHALATE, BUTYL BENZYL	MG/KG					200 U
HS56 DICHLOROBENZIDINE, 3,3'	MG/KG					400 U
HS57 ANTHRACENE, BENZO(A), BY GC/MS	MG/KG					200 U
HS58 PHTHALATE, BIS(2-ETHYLHEXYL)	MG/KG					200 U
HS59 CHRYSENE, BY GC/MS	MG/KG					200 U
HS60 PHTHALATE, DI-N-OCTYL-	MG/KG					200 U
HS61 FLUORANTHENE, BENZO(B), BY GC/MS	MG/KG					200 U
HS62 FLUORANTHENE, BENZO(K), BY GC/MS	MG/KG					200 U
HS63 PYRENE, BENZO(A), BY GC/MS	MG/KG					200 U
HS64 PYRENE, INDENO(1,2,3-CD)	MG/KG					200 U
HS65 ANTHRACENE, DIBENZO(A,H)	MG/KG					200 U
HS66 PERYLENE,BENZO(G,H,I), BY GC/MS	MG/KG					200 U
HV03 CHLOROMETHANE	MG/KG					0.49 U
HV04 BROMOMETHANE	MG/KG					0.28 U
HV05 VINYL CHLORIDE	MG/KG					0.35 U
HV06 CHLOROETHANE	MG/KG					0.28 U
HV07 METHYLENE CHLORIDE	MG/KG					0.28 U
HV08 DICHLOROETHYLENE,1,1	MG/KG					0.21 U
HV09 DICHLOROETHANE,1,1	MG/KG					0.21 U
HV10 DICHLOROETHYLENE,TRANS-1,2	MG/KG					0.21 U
HV11 CHLOROFORM	MG/KG					0.21 U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008	009	010	011	018	
HV12 DICHLOROETHANE,1,2	MG/KG					0.21	U
HV13 TRICHLOROETHANE,1,1,1-	MG/KG					0.21	U
HV14 CARBON TETRACHLORIDE	MG/KG					0.21	U
HV15 BROMODICHLOROMETHANE	MG/KG					0.21	U
HV16 DICHLOROPROPANE,1,2	MG/KG					0.21	U
HV17 BENZENE	MG/KG					0.21	U
HV18 DICHLOROPROPYLENE,TRANS-1,3	MG/KG					0.21	U
HV19 TRICHLOROETHYLENE	MG/KG					0.21	U
HV20 DICHLOROPROPENE,CIS-1,3	MG/KG					0.21	U
HV21 DIBROMOCHLOROMETHANE	MG/KG					0.21	U
HV22 TRICHLOROETHANE,1,1,2-	MG/KG					0.21	U
HV24 BROMOFORM	MG/KG					0.21	U
HV25 TETRACHLOROETHYLENE	MG/KG					46	
HV26 TOLUENE	MG/KG					0.21	U
HV27 TETRACHLOROETHANE,1,1,2,2	MG/KG					0.21	U
HV28 CHLOROBENZENE	MG/KG					0.21	U
HV29 ETHYL BENZENE	MG/KG					0.21	U
HV30 ACETONE	MG/KG					1.5	U
HV31 CARBON DISULFIDE	MG/KG					0.21	U
HV32 METHYL ETHYL KETONE	MG/KG					0.42	U
HV34 HEXANONE, 2-	MG/KG					0.42	U
HV35 4-METHYL-2-PENTANONE (MIBK)	MG/KG					0.42	U
HV36 STYRENE	MG/KG					0.21	U
HV37 XYLENES, TOTAL	MG/KG					0.21	U
HV50 DICHLOROBENZENE, 1,2-	MG/KG					0.25	
HV51 DICHLOROBENZENE, 1,3-	MG/KG					0.21	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008		009		010		011		018	
HV52 DICHLOROBENZENE, 1,4-	MG/KG									0.21	U
HV53 DICHLOROETHYLENE, CIS-1,2	MG/KG									0.21	U
HV54 XYLENE, ORTHO-	MG/KG									0.21	U
HV55 XYLENE, M AND/OR P	MG/KG									0.21	U
WM01 SILVER, TOTAL, BY ICAP	UG/L	7.88	U	7.88	U	7.88	U	7.88	U		
WM02 ALUMINUM, TOTAL, BY ICAP	UG/L	51.8		50.7	U	50.7	U	1640			
WM04 BARIUM, TOTAL, BY ICAP	UG/L	10.4		10.0		9.59		60.5			
WM05 BERYLLIUM, TOTAL, BY ICAP	UG/L	0.995	U	0.995	U	0.995	U	0.995	U		
WM06 CADMIUM, TOTAL, BY ICAP	UG/L	3.69	U	3.69	U	3.69	U	3.69	U		
WM07 COBALT, TOTAL, BY ICAP	UG/L	5.31	U	5.31	U	5.31	U	5.31	U		
WM08 CHROMIUM, TOTAL, BY ICAP	UG/L	14.2	U	14.2	U	14.2	U	14.2	U		
WM09 COPPER, TOTAL, BY ICAP	UG/L	8.32	U	8.32	U	8.32	U	8.32	U		
WM10 IRON, TOTAL, BY ICAP	UG/L	65.9	U	65.9	U	65.9	U	1840			
WM11 MANGANESE, TOTAL, BY ICAP	UG/L	1.53	U	1.53	U	1.53	U	266			
WM12 MOLYBDENUM, TOTAL, BY ICAP	UG/L	5.62	U	5.62	U	5.62	U	5.62	U		
WM13 NICKEL, TOTAL, BY ICAP	UG/L	11.5	U	11.5	U	11.5	U	11.5	U		
WM17 TITANIUM, TOTAL, BY ICAP	UG/L	15.2	U	15.2	U	15.2	U	15.2	U		
WM19 VANADIUM, TOTAL, BY ICAP	UG/L	2.51	U	2.51	U	2.51	U	3.41			
WM20 ZINC, TOTAL, BY ICAP	UG/L	32.9		30.9		30.6		125			
WM21 CALCIUM, TOTAL, BY ICAP	MG/L	24.9		23.6		23.0		108			
WM22 MAGNESIUM, TOTAL, BY ICAP	MG/L	23.6		22.4		22.0		24.7			
WM23 SODIUM, TOTAL, BY ICAP	MG/L	68.3		65.4		64.2		27.3			
WM24 POTASSIUM, TOTAL, BY ICAP	MG/L	5.89		5.56		5.52		1.36			
WM27 ARSENIC, TOTAL, BY AA	UG/L	1.66	U	1.66	U	1.66	U	1.66	U		
WM30 LEAD, TOTAL, BY AA	UG/L	1.00		0.700		0.557	U	0.700			
WM31 ANTIMONY, TOTAL, BY AA	UG/L	4.37	U	4.37	U	4.37	U	4.37	U		

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008		009		010		011		018
WM32 SELENIUM, TOTAL, BY AA	UG/L	1.81	U	1.81	U	1.81	U	1.81	U	
WM33 THALLIUM, TOTAL, BY AA	UG/L	1.44	U	1.44	U	1.44	U	1.44	U	
WP17 PCB-AROCLOR 1016	UG/L	0.35	U	0.35	U	0.35	U	0.35	U	
WP18 PCB-AROCLOR 1221	UG/L	0.30	U	0.30	U	0.30	U	0.30	U	
WP19 PCB-AROCLOR 1232	UG/L	0.10	U	0.10	U	0.10	U	0.10	U	
WP20 PCB-AROCLOR 1242	UG/L	0.095	U	0.095	U	0.095	U	0.22		
WP21 PCB-AROCLOR 1248	UG/L	0.14	U	0.14	U	0.14	U	0.14	U	
WP22 PCB-AROCLOR 1254	UG/L	0.090	U	0.098	U	0.10	U	0.082	U	
WP23 PCB-AROCLOR 1260	UG/L	0.062	U	0.062	U	0.062	U	0.062	U	
WS01 PHENOL, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS04 CHLOROPHENOL, 2-	UG/L	10	U	10	U	10	U	10	U	
WS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS06 DICHLOROBENZENE,1,4-	UG/L	10	U	10	U	10	U	10	U	
WS07 BENZYL ALCOHOL	UG/L	10	U	10	U	10	U	10	U	
WS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/L	10	U	10	U	10	U	10	U	
WS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/L	10	U	10	U	10	U	10	U	
WS12 N-NITROSODIPROPYLAMINE	UG/L	10	U	10	U	10	U	10	U	
WS13 HEXACHLOROETHANE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS14 NITROBENZENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS15 ISOPHORONE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS16 NITROPHENOL,2-	UG/L	10	U	10	U	10	U	10	U	
WS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS18 BENZOIC ACID, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008		009		010		011		018
WS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS20 DICHLOROPHENOL, 2,4-	UG/L	10	U	10	U	10	U	10	U	
WS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS22 NAPHTHALENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS23 CHLOROANILINE,4-	UG/L	10	U	10	U	10	U	10	U	
WS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS25 PHENOL,4-CHLORO-3-METHYL	UG/L	10	U	10	U	10	U	10	U	
WS26 METHYLNAPHTHALENE, 2-	UG/L	10	U	10	U	10	U	10	U	
WS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS28 TRICHLOROPHENOL,2,4,6	UG/L	10	U	10	U	10	U	10	U	
WS29 TRICHLOROPHENOL,2,4,5	UG/L	25	U	25	U	25	U	25	U	
WS30 CHLORONAPHTHALENE, 2-	UG/L	10	U	10	U	10	U	10	U	
WS31 NITROANILINE,2-(ORTHO)	UG/L	25	U	25	U	25	U	25	U	
WS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS33 ACENAPHTHYLENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS34 NITROANILINE,3-	UG/L	25	U	25	U	25	U	25	U	
WS35 ACENAPHTHENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS36 DINITROPHENOL,2,4, BY GC/MS	UG/L	25	U	25	U	25	U	25	U	
WS37 NITROPHENOL,4-	UG/L	25	U	25	U	25	U	25	U	
WS38 DIBENZOFURAN	UG/L	10	U	10	U	10	U	10	U	
WS39 DINITROTOLUENE,2,4, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS40 DINITROTOLUENE,2,6-	UG/L	10	U	10	U	10	U	10	U	
WS41 PHTHALATE, DIETHYL, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/L	10	U	10	U	10	U	10	U	
WS43 FLUORENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS44 NITROANILINE,4-	UG/L	25	U	25	U	25	U	25	U	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008		009		010		011		018
WS45 PHENOL,4,6-DINITRO-2-METHYL	UG/L	25	U	25	U	25	U	25	U	
WS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS47 ETHER, 4-BROMOPHENYL PHENYL	UG/L	10	U	10	U	10	U	10	U	
WS48 HEXACHLOROBENZENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS49 PENTACHLOROPHENOL, BY GC/MS	UG/L	25	U	25	U	25	U	25	U	
WS50 PHENANTHRENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS51 ANTHRACENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS53 FLUORANTHENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS54 PYRENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS55 PHTHALATE, BUTYL BENZYL	UG/L	10	U	10	U	10	U	10	U	
WS56 DICHLOROBENZIDINE, 3,3'	UG/L	10	U	10	U	10	U	10	U	
WS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS59 CHRYSENE, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS63 PYRENE, BENZO(A), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS64 PYRENE, INDENO(1,2,3-CD)	UG/L	10	U	10	U	10	U	10	U	
WS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/L	10	U	10	U	10	U	10	U	
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1	U	1	U	1	U	1	U	
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	2	U	2	U	2	U	2	U	
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1	U	1	U	1	U	220		
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2	U	2	U	2	U	2	U	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008		009		010		011		018
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1	U	1	U	1	U	1	U	
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	2	U	2	U	2	U	2	U	
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.9		
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	4		4		4		2		
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.6	U	0.6	U	0.6	U	0.6	U	
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.2	U	0.2	U	0.2	U	0.2	U	
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	2		2		2		0.3	U	
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	
WW54 BENZENE, BY GC/MS LDL	UG/L	0.1	U	0.1	U	0.1	U	6		
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	0.5	U	0.5	U	0.5	U	72		
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.6	U	0.6	U	0.6	U	0.6	U	
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.3	U	0.3	U	0.3	U	0.3	U	
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.2	U	0.2	U	0.2	U	0.2	U	
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	0.3	U	0.3	U	0.3	U	0.5		
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.5	U	0.5	U	0.5	U	0.5	U	
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.6	U	0.6	U	0.6	U	0.6	U	
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.2	U	0.2	U	0.2	U	0.2	U	
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.3	U	0.3	U	0.3	U	0.3	U	
WW65 ACETONE, BY GC/MS LDL	UG/L	9	U	9	U	9	U	9	U	
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1	U	1	U	1	U	1	U	
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3	U	3	U	3	U	3	U	
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3	U	3	U	3	U	3	U	
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.8	U	0.8	U	0.8	U	0.8	U	
WW70 STYRENE, BY GC/MS LDL	UG/L	0.3	U	0.3	U	0.3	U	0.3	U	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	008	009	010	011	018
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.8 U	0.8 U	0.8 U	0.8 U	
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	0.8 U	0.8 U	0.8 U	4	
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	0.5 U	0.5 U	0.5 U	660	
ZZ01 SAMPLE NUMBER	NA	008	009	010	011	018
ZZ02 ACTIVITY CODE	NA	FB2JJ	FB2JJ	FB2JJ	FB2JJ	FB2JJ

COMPOUND	UNITS	019		100	100 D	101	102
HM01 SILVER, TOTAL, BY ICAP	MG/KG	0.615	U				
HM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	2.00	U				
HM03 ARSENIC, TOTAL, BY ICAP	MG/KG	0.950	U				
HM04 BARIUM, TOTAL, BY ICAP	MG/KG	3.56	U				
HM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.139	U				
HM06 CADMIUM, TOTAL, BY ICAP	MG/KG	0.487	U				
HM07 COBALT, TOTAL, BY ICAP	MG/KG	0.664	U				
HM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	0.908	U				
HM09 COPPER, TOTAL, BY ICAP	MG/KG	0.111					
HM10 IRON, TOTAL, BY ICAP	MG/KG	16.1					
HM11 MANGANESE, TOTAL, BY ICAP	MG/KG	2.70	U				
HM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.393	U				
HM13 NICKEL, TOTAL, BY ICAP	MG/KG	0.535	U				
HM14 LEAD, TOTAL, BY ICAP	MG/KG	0.702	U				
HM15 ANTIMONY, TOTAL, BY ICAP	MG/KG	0.561	U				
HM16 SELENIUM, BY ICAP	MG/KG	3.09	U				
HM18 THALLIUM, TOTAL BY ICAP	MG/KG	3.15	U				
HM19 VANADIUM, TOTAL, BY ICAP	MG/KG	3.05	U				
HM20 ZINC, TOTAL BY ICAP	MG/KG	2.34	U				
HM21 CALCIUM, TOTAL, BY ICAP	MG/KG	39.0	U				
HM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	22.4	U				
HM23 SODIUM, TOTAL, BY ICAP	MG/KG	40.0	U				
HM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	25.5	U				
HP17 PCB-AROCLOR 1016	MG/KG	42000	U				
HP18 PCB-AROCLOR 1221	MG/KG	28000	U				
HP19 PCB-AROCLOR 1232	MG/KG	24000	U				

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019		100	100 D	101	102
HP20 PCB-AROCLOR 1242	MG/KG	8000	U				
HP21 PCB-AROCLOR 1248	MG/KG	7600	U				
HP22 PCB-AROCLOR 1254	MG/KG	3600	U				
HP23 PCB-AROCLOR 1260	MG/KG	580000					
HS01 PHENOL	MG/KG	25000	U				
HS03 ETHER,BIS(2-CHLOROETHYL)	MG/KG	25000	U				
HS04 CHLOROPHENOL, 2-	MG/KG	25000	U				
HS05 DICHLOROBENZENE,1,3-	MG/KG	25000	U				
HS06 DICHLOROBENZENE,1,4-	MG/KG	25000	U				
HS07 BENZYL ALCOHOL	MG/KG	25000	U				
HS08 DICHLOROBENZENE,1,2-	MG/KG	25000	U				
HS09 CRESOL, ORTHO(2-METHYLPHENOL)	MG/KG	25000	U				
HS10 ETHER,BIS(2-CHLOROISOPROPYL)	MG/KG	25000	U				
HS11 CRESOL, PARA-(4-METHYLPHENOL)	MG/KG	25000	U				
HS12 N-NITROSODIPROPYLAMINE	MG/KG	25000	U				
HS13 HEXACHLOROETHANE	MG/KG	25000	U				
HS14 NITROBENZENE	MG/KG	25000	U				
HS15 ISOPHORONE	MG/KG	25000	U				
HS16 NITROPHENOL,2-	MG/KG	25000	U				
HS17 DIMETHYLPHENOL, 2,4-	MG/KG	25000	U				
HS18 BENZOIC ACID	MG/KG	25000	U				
HS19 METHANE, BIS(2-CHLOROETHYOXY)	MG/KG	25000	U				
HS20 DICHLOROPHENOL, 2,4-	MG/KG	25000	U				
HS21 TRICHLOROBENZENE, 1,2,4-	MG/KG	210000					
HS22 NAPHTHALENE	MG/KG	25000	U				
HS23 CHLOROANILINE, 4-	MG/KG	25000	U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019		100	100 D	101	102
HS24 HEXACHLOROBUTADIENE	MG/KG	25000	U				
HS25 4-CHLORO-3-METHYLPHENOL	MG/KG	25000	U				
HS26 METHYLNAPHTHALENE, 2-	MG/KG	25000	U				
HS27 HEXACHLOROCYCLOPENTADIENE	MG/KG	25000	U				
HS28 TRICHLOROPHENOL, 2,4,6-	MG/KG	25000	U				
HS29 TRICHLOROPHENOL, 2,4,5-	MG/KG	25000	U				
HS30 CHLORONAPHTHALENE, 2-	MG/KG	25000	U				
HS31 NITROANILINE,2-	MG/KG	25000	U				
HS32 PHTHALATE, DIMETHYL	MG/KG	25000	U				
HS33 ACENAPHTHYLENE, BY GC/MS	MG/KG	25000	U				
HS34 NITROANILINE,3-	MG/KG	25000	U				
HS35 ACENAPHTHENE, BY GC/MS	MG/KG	25000	U				
HS36 DINITROPHENOL, 2,4-	MG/KG	25000	U				
HS37 NITROPHENOL,4-	MG/KG	25000	U				
HS38 DIBENZOFURAN	MG/KG	25000	U				
HS39 DINITROTOLUENE, 2,4-	MG/KG	25000	U				
HS40 DINITROTOLUENE,2,6-	MG/KG	25000	U				
HS41 PHTHALATE, DIETHYL	MG/KG	25000	U				
HS42 ETHER, 4-CHLOROPHENYL PHENYL	MG/KG	25000	U				
HS43 FLUORENE, BY GC/MS	MG/KG	25000	U				
HS44 NITROANILINE,4-	MG/KG	25000	U				
HS45 PHENOL, 4,6- DINITRO-2-	MG/KG	25000	U				
HS46 N-NITROSODIPHENYLAMINE	MG/KG	25000	U				
HS47 ETHER, 4-BROMOPHENYL PHENYL	MG/KG	25000	U				
HS48 HEXACHLOROBENZENE	MG/KG	25000	U				
HS49 PENTACHLOROPHENOL	MG/KG	25000	U				

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019		100	100 D	101	102
HS50 PHENANTHRENE	MG/KG	25000	U				
HS51 ANTHRACENE, BY GC/MS	MG/KG	25000	U				
HS52 PHTHALATE, DI-N-BUTYL-	MG/KG	25000	U				
HS53 FLUORANTHENE, BY GC/MS	MG/KG	25000	U				
HS54 PYRENE	MG/KG	25000	U				
HS55 PHTHALATE, BUTYL BENZYL	MG/KG	25000	U				
HS56 DICHLOROBENZIDINE, 3,3'	MG/KG	25000	U				
HS57 ANTHRACENE, BENZO(A), BY GC/MS	MG/KG	25000	U				
HS58 PHTHALATE, BIS(2-ETHYLHEXYL)	MG/KG	25000	U				
HS59 CHRYSENE, BY GC/MS	MG/KG	25000	U				
HS60 PHTHALATE, DI-N-OCTYL-	MG/KG	25000	U				
HS61 FLUORANTHENE, BENZO(B), BY GC/MS	MG/KG	25000	U				
HS62 FLUORANTHENE, BENZO(K), BY GC/MS	MG/KG	25000	U				
HS63 PYRENE, BENZO(A), BY GC/MS	MG/KG	25000	U				
HS64 PYRENE, INDENO(1,2,3-CD)	MG/KG	25000	U				
HS65 ANTHRACENE, DIBENZO(A,H)	MG/KG	25000	U				
HS66 PERYLENE,BENZO(G,H,I), BY GC/MS	MG/KG	25000	U				
HV03 CHLOROMETHANE	MG/KG	0.21	U				
HV04 BROMOMETHANE	MG/KG	0.12	U				
HV05 VINYL CHLORIDE	MG/KG	0.15	U				
HV06 CHLOROETHANE	MG/KG	0.12	U				
HV07 METHYLENE CHLORIDE	MG/KG	0.12	U				
HV08 DICHLOROETHYLENE,1,1	MG/KG	0.12	U				
HV09 DICHLOROETHANE,1,1	MG/KG	0.12	U				
HV10 DICHLOROETHYLENE,TRANS-1,2	MG/KG	0.12	U				
HV11 CHLOROFORM	MG/KG	0.12	U				

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019		100	100 D	101	102
HV12 DICHLOROETHANE,1,2	MG/KG	0.12	U				
HV13 TRICHLOROETHANE,1,1,1-	MG/KG	0.12	U				
HV14 CARBON TETRACHLORIDE	MG/KG	0.12	U				
HV15 BROMODICHLOROMETHANE	MG/KG	0.12	U				
HV16 DICHLOROPROPANE,1,2	MG/KG	0.12	U				
HV17 BENZENE	MG/KG	0.12	U				
HV18 DICHLOROPROPYLENE,TRANS-1,3	MG/KG	0.12	U				
HV19 TRICHLOROETHYLENE	MG/KG	0.12	U				
HV20 DICHLOROPROPENE,CIS-1,3	MG/KG	0.12	U				
HV21 DIBROMOCHLOROMETHANE	MG/KG	0.12	U				
HV22 TRICHLOROETHANE,1,1,2-	MG/KG	0.12	U				
HV24 BROMOFORM	MG/KG	0.12	U				
HV25 TETRACHLOROETHYLENE	MG/KG	0.90					
HV26 TOLUENE	MG/KG	0.12	U				
HV27 TETRACHLOROETHANE,1,1,2,2	MG/KG	0.12	U				
HV28 CHLOROBENZENE	MG/KG	0.12	U				
HV29 ETHYL BENZENE	MG/KG	0.12	U				
HV30 ACETONE	MG/KG	0.42	U				
HV31 CARBON DISULFIDE	MG/KG	0.12	U				
HV32 METHYL ETHYL KETONE	MG/KG	0.25	U				
HV34 HEXANONE, 2-	MG/KG	0.25	U				
HV35 4-METHYL-2-PENTANONE (MIBK)	MG/KG	0.25	U				
HV36 STYRENE	MG/KG	0.12	U				
HV37 XYLENES, TOTAL	MG/KG	0.12	U				
HV50 DICHLOROBENZENE, 1,2-	MG/KG	2200					
HV51 DICHLOROBENZENE, 1,3-	MG/KG	680					

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019		100		100 D		101		102	
HV52 DICHLOROBENZENE, 1,4-	MG/KG	780								.	
HV53 DICHLOROETHYLENE, CIS-1,2	MG/KG	0.12	U								
HV54 XYLENE, ORTHO-	MG/KG	0.12	U								
HV55 XYLENE, M AND/OR P	MG/KG	0.12	U								
SG07 SOLIDS, PERCENT	%			44.7		51.1				81.7	
SM01 SILVER, TOTAL, BY ICAP	MG/KG			5.51		7.47				0.615	U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG			12100		16500				9480	
SM03 ARSENIC, TOTAL, BY ICAP	MG/KG			26.4		9.05				111	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG			293		370				146	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG			0.139	U	0.139	U			0.139	U
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG			38.3		42.6				4.99	
SM07 COBALT, TOTAL, BY ICAP	MG/KG			14.6		16.6				7.77	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG			353		443				18.4	
SM09 COPPER, TOTAL, BY ICAP	MG/KG			445		503				36.9	
SM10 IRON, TOTAL, BY ICAP	MG/KG			70500		87600				17300	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG			316		337				465	
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG			7.61		9.80				1.02	
SM13 NICKEL, TOTAL, BY ICAP	MG/KG			58.7		89.7				18.4	
SM14 LEAD, TOTAL, BY ICAP	MG/KG			1090		1370				389	
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG			5.99		9.94				1.76	
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG			3.09	U	3.09	U			3.09	U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG			33.7		20.7				3.15	U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG			16.8		17.5				21.0	
SM20 ZINC, TOTAL, BY ICAP	MG/KG			6370		6560				317	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG			10700		13200				31400	
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG			2910		3250				8280	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019	100		100 D		101	102	
SM23 SODIUM, TOTAL, BY ICAP	MG/KG		380		552			175	
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG		580		873			1270	
SP17 PCB-AROCLOR 1016	UG/KG		39000000	U	680000	U		29	U
SP18 PCB-AROCLOR 1221	UG/KG		34000000	U	590000	U		24	U
SP19 PCB-AROCLOR 1232	UG/KG		11000000	U	200000	U		8.2	U
SP20 PCB-AROCLOR 1242	UG/KG		11000000	U	190000	U		7.8	U
SP21 PCB-AROCLOR 1248	UG/KG		410000000		30000000			11	U
SP22 PCB-AROCLOR 1254	UG/KG		5000000	U	88000	U		130	
SP23 PCB-AROCLOR 1260	UG/KG		7000000	U	120000	U		5.1	U
SS01 PHENOL, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS04 CHLOROPHENOL, 2-	UG/KG		150000	U	130000	U		81000	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS06 DICHLOROBENZENE,1,4-	UG/KG		150000	U	130000	U		81000	U
SS07 BENZYL ALCOHOL	UG/KG		150000	U	130000	U		81000	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG		150000	U	130000	U		81000	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG		150000	U	130000	U		81000	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG		150000	U	130000	U		81000	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS14 NITROBENZENE, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS15 ISOPHORONE, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS16 NITROPHENOL,2-	UG/KG		150000	U	130000	U		81000	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG		760000	U	670000	U		420000	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019	100		100 D		101	102	
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG		150000	U	130000	U		81000	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS23 CHLOROANILINE,4-	UG/KG		150000	U	130000	U		81000	U
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG		150000	U	130000	U		81000	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG		150000	U	130000	U		81000	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG		150000	U	130000	U		81000	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG		760000	U	670000	U		420000	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG		150000	U	130000	U		81000	U
SS31 NITROANILINE,2-	UG/KG		760000	U	670000	U		420000	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG		150000	U	130000	U		820	U
SS34 NITROANILINE,3-	UG/KG		760000	U	670000	U		420000	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG		150000	U	130000	U		820	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG		760000	U	670000	U		420000	U
SS37 NITROPHENOL,4-	UG/KG		760000	U	670000	U		420000	U
SS38 DIBENZOFURAN	UG/KG		150000	U	130000	U		81000	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS40 DINITROTOLUENE,2,6-	UG/KG		150000	U	130000	U		81000	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG		150000	U	130000	U		81000	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG		150000	U	130000	U		81000	U
SS43 FLUORENE, GC/MS	UG/KG		150000	U	130000	U		820	U
SS44 NITROANILINE,4-	UG/KG		760000	U	670000	U		420000	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019		100		100 D		101		102	
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG			760000	U	670000	U			420000	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG			150000	U	130000	U			81000	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG			150000	U	130000	U			81000	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG			150000	U	130000	U			81000	U
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG			760000	U	670000	U			420000	U
SS50 PHENANTHRENE, BY GC/MS	UG/KG			150000	U	130000	U			2300	
SS51 ANTHRACENE, BY GC/MS	UG/KG			150000	U	130000	U			820	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG			150000	U	130000	U			81000	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG			150000	U	130000	U			820	U
SS54 PYRENE, BY GC/MS	UG/KG			150000	U	130000	U			2500	
SS55 PHTHALATE, BUTYL BENZYL	UG/KG			150000	U	130000	U			81000	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG			150000	U	130000	U			81000	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG			150000	U	130000	U			2200	
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG			150000	U	130000	U			81000	U
SS59 CHRYSENE, BY GC/MS	UG/KG			150000	U	130000	U			2100	
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG			210000		130000	U			81000	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG			150000	U	130000	U			81000	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG			150000	U	130000	U			81000	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG			150000	U	130000	U			81000	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG			150000	U	130000	U			81000	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG			150000	U	130000	U			81000	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG			150000	U	130000	U			81000	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG			42	U	29	U			21	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG			83	U	58	U			41	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG			63	U	43	U			31	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG			63	U	43	U			31	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019	100		100 D		101	102	
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG		42	U	29	U		21	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG		21	U	14	U		10	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG		21	U	30			10	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG		21	U	14	U		10	U
SV11 CHLOROFORM, BY GC/MS	UG/KG		21	U	14	U		10	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG		21	U	14	U		10	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG		21	U	14	U		10	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG		21	U	14	U		10	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG		21	U	14	U		10	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG		21	U	14	U		10	U
SV17 BENZENE, BY GC/MS	UG/KG		21	U	14	U		10	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG		21	U	14	U		10	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG		21	U	14	U		10	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG		21	U	14	U		10	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG		21	U	14	U		10	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG		21	U	14	U		10	U
SV24 BROMOFORM, BY GC/MS	UG/KG		21	U	14	U		10	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG		21	U	14	U		10	U
SV26 TOLUENE, BY GC/MS	UG/KG		21	U	14	U		10	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG		21	U	14	U		10	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG		21	U	27			10	U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG		21	U	14	U		10	U
SV30 ACETONE, BY GC/MS	UG/KG		200		240			24	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG		21	U	14	U		10	U
SV32 METHYL ETHYL KETONE	UG/KG		54		64			21	U
SV34 HEXANONE, 2-	UG/KG		42	U	29	U		21	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019	100	100 D	101	102
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG		42 U	29 U		21 U
SV36 STYRENE, BY GC/MS	UG/KG		21 U	14 U		10 U
SV44 DICHLOROBENZENE,1,4-	UG/KG		280	370		10 U
SV49 XYLENE, ORTHO	UG/KG		21 U	14 U		10 U
SV57 XYLENE, M AND/OR P	UG/KG		21 U	18		10 U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG		140	180		10 U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG		38	44		10 U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG		21 U	14 U		10 U
WM01 SILVER, TOTAL, BY ICAP	UG/L				7.88 U	
WM02 ALUMINUM, TOTAL, BY ICAP	UG/L				58.0	
WM04 BARIUM, TOTAL, BY ICAP	UG/L				3.94 U	
WM05 BERYLLIUM, TOTAL, BY ICAP	UG/L				0.995 U	
WM06 CADMIUM, TOTAL, BY ICAP	UG/L				3.69 U	
WM07 COBALT, TOTAL, BY ICAP	UG/L				5.31 U	
WM08 CHROMIUM, TOTAL, BY ICAP	UG/L				14.2 U	
WM09 COPPER, TOTAL, BY ICAP	UG/L				8.32 U	
WM10 IRON, TOTAL, BY ICAP	UG/L				142	
WM11 MANGANESE, TOTAL, BY ICAP	UG/L				1.58	
WM12 MOLYBDENUM, TOTAL, BY ICAP	UG/L				5.62 U	
WM13 NICKEL, TOTAL, BY ICAP	UG/L				28.9	
WM17 TITANIUM, TOTAL, BY ICAP	UG/L				15.2 U	
WM19 VANADIUM, TOTAL, BY ICAP	UG/L				2.51 U	
WM20 ZINC, TOTAL, BY ICAP	UG/L				10.8 U	
WM21 CALCIUM, TOTAL, BY ICAP	MG/L				1.10 U	
WM22 MAGNESIUM, TOTAL, BY ICAP	MG/L				1.03 U	
WM23 SODIUM, TOTAL, BY ICAP	MG/L				1.61 U	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	019	100	100 D	101		102
WM24 POTASSIUM, TOTAL, BY ICAP	MG/L				1.04	U	
WM27 ARSENIC, TOTAL, BY AA	UG/L				1.66	U	
WM30 LEAD, TOTAL, BY AA	UG/L				0.557	U	
WM31 ANTIMONY, TOTAL, BY AA	UG/L				4.37	U	
WM32 SELENIUM, TOTAL, BY AA	UG/L				1.81	U	
WM33 THALLIUM, TOTAL, BY AA	UG/L				1.44	U	
WP17 PCB-AROCLOR 1016	UG/L				0.35	U	
WP18 PCB-AROCLOR 1221	UG/L				0.30	U	
WP19 PCB-AROCLOR 1232	UG/L				0.10	U	
WP20 PCB-AROCLOR 1242	UG/L				0.095	U	
WP21 PCB-AROCLOR 1248	UG/L				0.14	U	
WP22 PCB-AROCLOR 1254	UG/L				0.044	U	
WP23 PCB-AROCLOR 1260	UG/L				0.062	U	
WS01 PHENOL, BY GC/MS	UG/L				10	U	
WS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/L				10	U	
WS04 CHLOROPHENOL, 2-	UG/L				10	U	
WS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/L				10	U	
WS06 DICHLOROBENZENE,1,4-	UG/L				10	U	
WS07 BENZYL ALCOHOL	UG/L				10	U	
WS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/L				10	U	
WS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/L				10	U	
WS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/L				10	U	
WS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/L				10	U	
WS12 N-NITROSODIPROPYLAMINE	UG/L				10	U	
WS13 HEXACHLOROETHANE, BY GC/MS	UG/L				10	U	
WS14 NITROBENZENE, BY GC/MS	UG/L				10	U	

COMPOUND	UNITS	019	100	100 D	101	102
WS15 ISOPHORONE, BY GC/MS	UG/L				10 U	
WS16 NITROPHENOL,2-	UG/L				10 U	
WS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/L				10 U	
WS18 BENZOIC ACID, BY GC/MS	UG/L				10 U	
WS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/L				10 U	
WS20 DICHLOROPHENOL, 2,4-	UG/L				10 U	
WS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/L				10 U	
WS22 NAPHTHALENE, BY GC/MS	UG/L				10 U	
WS23 CHLOROANILINE,4-	UG/L				10 U	
WS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/L				10 U	
WS25 PHENOL,4-CHLORO-3-METHYL	UG/L				10 U	
WS26 METHYLNAPHTHALENE, 2-	UG/L				10 U	
WS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/L				10 U	
WS28 TRICHLOROPHENOL,2,4,6	UG/L				10 U	
WS29 TRICHLOROPHENOL,2,4,5	UG/L				25 U	
WS30 CHLORONAPHTHALENE, 2-	UG/L				10 U	
WS31 NITROANILINE,2-(ORTHO)	UG/L				25 U	
WS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/L				10 U	
WS33 ACENAPHTHYLENE, BY GC/MS	UG/L				10 U	
WS34 NITROANILINE,3-	UG/L				25 U	
WS35 ACENAPHTHENE, BY GC/MS	UG/L				10 U	
WS36 DINITROPHENOL,2,4, BY GC/MS	UG/L				25 U	
WS37 NITROPHENOL,4-	UG/L				25 U	
WS38 DIBENZOFURAN	UG/L				10 U	
WS39 DINITROTOLUENE,2,4, BY GC/MS	UG/L				10 U	
WS40 DINITROTOLUENE,2,6-	UG/L				10 U	

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COMPOUND	UNITS	019	100	100 D	101	102
WS41 PHTHALATE, DIETHYL, BY GC/MS	UG/L				10 U	
WS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/L				10 U	
WS43 FLUORENE, BY GC/MS	UG/L				10 U	
WS44 NITROANILINE,4-	UG/L				25 U	
WS45 PHENOL,4,6-DINITRO-2-METHYL	UG/L				25 U	
WS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/L				10 U	
WS47 ETHER, 4-BROMOPHENYL PHENYL	UG/L				10 U	
WS48 HEXACHLOROBENZENE, BY GC/MS	UG/L				10 U	
WS49 PENTACHLOROPHENOL, BY GC/MS	UG/L				25 U	
WS50 PHENANTHRENE, BY GC/MS	UG/L				10 U	
WS51 ANTHRACENE, BY GC/MS	UG/L				10 U	
WS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/L				10 U	
WS53 FLUORANTHENE, BY GC/MS	UG/L				10 U	
WS54 PYRENE, BY GC/MS	UG/L				10 U	
WS55 PHTHALATE, BUTYL BENZYL	UG/L				10 U	
WS56 DICHLOROBENZIDINE, 3,3'	UG/L				10 U	
WS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/L				10 U	
WS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/L				10 U	
WS59 CHRYSENE, BY GC/MS	UG/L				10 U	
WS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/L				10 U	
WS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/L				10 U	
WS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/L				10 U	
WS63 PYRENE, BENZO(A), BY GC/MS	UG/L				10 U	
WS64 PYRENE, INDENO(1,2,3-CD)	UG/L				10 U	
WS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/L				10 U	
WS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/L				10 U	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
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COMPOUND	UNITS	019	100	100 D	101		102
WV03 CHLOROMETHANE, BY GC/MS	UG/L				1	U	
WV04 BROMOMETHANE, BY GC/MS	UG/L				2	U	
WV05 VINYL CHLORIDE, BY GC/MS	UG/L				1	U	
WV06 CHLOROETHANE, BY GC/MS	UG/L				2	U	
WV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/L				1	U	
WV08 DICHLOROETHYLENE,1,1-	UG/L				2	U	
WV09 DICHLOROETHANE,1,1, BY GC/MS	UG/L				0.4	U	
WV11 CHLOROFORM, BY GC/MS	UG/L				0.4	U	
WV12 DICHLOROETHANE,1,2, BY GC/MS	UG/L				0.4	U	
WV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/L				0.6	U	
WV14 CARBON TETRACHLORIDE, BY GC/MS	UG/L				0.2	U	
WV15 BROMODICHLOROMETHANE, BY GC/MS	UG/L				0.3	U	
WV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/L				0.4	U	
WV17 BENZENE, BY GC/MS	UG/L				0.1	U	
WV19 TRICHLOROETHYLENE	UG/L				0.5	U	
WV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/L				0.6	U	
WV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/L				0.3	U	
WV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/L				0.4	U	
WV24 BROMOFORM, BY GC/MS	UG/L				0.2	U	
WV25 TETRACHLOROETHYLENE	UG/L				0.3	U	
WV26 TOLUENE, BY GC/MS	UG/L				0.5	U	
WV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/L				0.6	U	
WV28 CHLOROBENZENE, BY GC/MS	UG/L				0.2	U	
WV29 ETHYL BENZENE, BY GC/MS	UG/L				0.3	U	
WV30 ACETONE, BY GC/MS	UG/L				9	U	
WV31 CARBON DISULFIDE, BY GC/MS	UG/L				1	U	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
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COMPOUND	UNITS	019	100	100 D	101	102
WV32 METHYL ETHYL KETONE (2-BUTANONE)	UG/L				3 U	
WV34 HEXANONE, 2-	UG/L				3 U	
WV35 4-METHYL-2-PENTANONE(MIBK)	UG/L				0.8 U	
WV36 STYRENE, BY GC/MS	UG/L				0.3 U	
WV40 DICHLOROPROPYLENE,TRANS-1,3	UG/L				0.8 U	
WV67 XYLENE, M AND/OR P	UG/L				0.2 U	
WV70 XYLENE, ORTHO	UG/L				0.4 U	
WV72 DICHLOROBENZENE,1,4-(PARA)	UG/L				0.5 U	
WV74 DICHLOROBENZENE,1,3-(META)	UG/L				0.4 U	
WV77 DICHLOROBENZENE,1,2-(ORTHO)	UG/L				0.4 U	
WV78 DICHLOROETHYLENE,TRANS-1,2	UG/L				0.8 U	
WV82 DICHLOROETHYLENE,CIS-1,2	UG/L				2	
ZZ01 SAMPLE NUMBER	NA	019	100	100	101	102
ZZ02 ACTIVITY CODE	NA	FB2JJ	FB2JJ	FB2JJ	FB2JJ	FB2JJ

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	103		104		104 D		105		106	
SG07 SOLIDS, PERCENT	%	81.8		91.5		90.9		91.7		40.7	
SM01 SILVER, TOTAL, BY ICAP	MG/KG	0.615	U	0.615	U	0.615	U	0.615	U	1.10	
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	11300		2600		5010		7540		8810	
SM03 ARSENIC, TOTAL, BY ICAP	MG/KG	2.87		36.9		59.1		2.47		12.2	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	147		83.8		104		211		149	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.139	U	0.139	U	0.139	U	0.139	U	0.139	U
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	4.26		5.34		6.90		5.89		18.1	
SM07 COBALT, TOTAL, BY ICAP	MG/KG	7.82		8.19		8.74		8.64		13.0	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	15.8		20.2		26.3		33.6		284	
SM09 COPPER, TOTAL, BY ICAP	MG/KG	26.0		123		131		117		372	
SM10 IRON, TOTAL, BY ICAP	MG/KG	17300		16500		22200		18100		52700	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	555		428		554		650		904	
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.560		0.909		0.96		0.970		5.40	
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	17.5		18.4		19.5		23.6		45.0	
SM14 LEAD, TOTAL, BY ICAP	MG/KG	150		822		1080		868		3590	
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG	0.786		2.39		0.561	U	0.561	U	5.61	
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	3.09	U	3.09	U	3.09	U	3.09	U	3.09	U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	3.15	U	3.15	U	3.15	U	3.15	U	3.15	U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	24.1		8.78		10.6		18.9		59.0	
SM20 ZINC, TOTAL, BY ICAP	MG/KG	149		705		850		484		5750	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	3880		172000		82100		23800		101000	
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	2250		25100		12100		4140		12000	
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	113		264		260		135		486	
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	1550		407		551		1370		851	
SP17 PCB-AROCLOR 1016	UG/KG	29	U	640	U	640	U	250	U	11000	U
SP18 PCB-AROCLOR 1221	UG/KG	24	U	550	U	550	U	220	U	9800	U

COMPOUND	UNITS	103		104		104 D		105		106	
SP19 PCB-AROCLOR 1232	UG/KG	8.2	U	180	U	180	U	73	U	3300	U
SP20 PCB-AROCLOR 1242	UG/KG	7.7	U	170	U	170	U	69	U	3100	U
SP21 PCB-AROCLOR 1248	UG/KG	11	U	2400		2600		1000		15000	
SP22 PCB-AROCLOR 1254	UG/KG	3.7	U	2000		2500		1100		19000	
SP23 PCB-AROCLOR 1260	UG/KG	220		470		620		480		19000	
SS01 PHENOL, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS04 CHLOROPHENOL, 2-	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS06 DICHLOROBENZENE,1,4-	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS07 BENZYL ALCOHOL	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS14 NITROBENZENE, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS15 ISOPHORONE, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS16 NITROPHENOL,2-	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	2100	U	370000	U	370000	U	370000	U	830000	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	103		104		104 D		105		106	
SS23 CHLOROANILINE,4-	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	2100	U	370000	U	370000	U	370000	U	830000	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS31 NITROANILINE,2-	UG/KG	2100	U	370000	U	370000	U	370000	U	830000	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	400	U	72000	U	730	U	730	U	160000	U
SS34 NITROANILINE,3-	UG/KG	2100	U	370000	U	370000	U	370000	U	830000	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	400	U	730	U	730	U	73000	U	160000	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	2100	U	370000	U	370000	U	370000	U	830000	U
SS37 NITROPHENOL,4-	UG/KG	2100	U	370000	U	370000	U	370000	U	830000	U
SS38 DIBENZOFURAN	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS40 DINITROTOLUENE,2,6-	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS43 FLUORENE, GC/MS	UG/KG	400	U	730	U	730	U	730	U	160000	U
SS44 NITROANILINE,4-	UG/KG	2100	U	370000	U	370000	U	370000	U	830000	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	2100	U	370000	U	370000	U	370000	U	830000	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	103		104		104 D		105		106	
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	2100	U	370000	U	370000	U	370000	U	830000	U
SS50 PHENANTHRENE, BY GC/MS	UG/KG	450		2400		1700		7100		160000	U
SS51 ANTHRACENE, BY GC/MS	UG/KG	400	U	730	U	730	U	1000		160000	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG	800		5600		3600		11000		160000	U
SS54 PYRENE, BY GC/MS	UG/KG	980		2800		2300		5900		160000	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	400	U	2200		1700		5100		160000	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS59 CHRYSENE, BY GC/MS	UG/KG	510		2200		1700		3900		160000	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	400	U	72000	U	73000	U	72000	U	160000	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	400	U	2500		2000		4900		160000	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	400	U	730	U	730	U	6600		160000	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	400	U	1300		1100		3000		160000	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	400	U	920		730	U	2200		160000	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	400	U	730	U	730	U	890		160000	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	400	U	780		730	U	2100		160000	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	23	U	15	U	22	U	16	U	25	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	45	U	31	U	43	U	33	U	50	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	34	U	23	U	32	U	24	U	37	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	34	U	23	U	32	U	24	U	37	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	23	U	15	U	22	U	16	U	25	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	11	U	8	U	11	U	8	U	12	U

COMPOUND	UNITS	103		104		104 D		105		106	
SV11 CHLOROFORM, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV17 BENZENE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	11	U	8	U	11	U	8	U	12	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	11	U	1800		1800		8	U	12	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV24 BROMOFORM, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV26 TOLUENE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV30 ACETONE, BY GC/MS	UG/KG	23	U	25	U	22	U	16	U	100	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV32 METHYL ETHYL KETONE	UG/KG	23	U	15	U	22	U	16	U	29	
SV34 HEXANONE, 2-	UG/KG	23	U	15	U	22	U	16	U	25	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	23	U	15	U	22	U	16	U	25	U
SV36 STYRENE, BY GC/MS	UG/KG	11	U	8	U	11	U	8	U	12	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	11	U	8	U	11	U	8	U	12	U
SV49 XYLENE, ORTHO	UG/KG	11	U	8	U	11	U	8	U	12	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	103		104		104 D		105		106	
SV57 XYLENE, M AND/OR P	UG/KG	11	U	8	U	11	U	8	U	12	U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	11	U	8	U	11	U	8	U	12	U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	11	U	8	U	11	U	8	U	12	U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	11	U	8	U	11	U	8	U	12	U
ZZ01 SAMPLE NUMBER	NA	103		104		104		105		106	
ZZ02 ACTIVITY CODE	NA	FB2JJ		FB2JJ		FB2JJ		FB2JJ		FB2JJ	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	107		108		109		110		111	
SG07 SOLIDS, PERCENT	%	33.2		35.2		76.5		78.9		80.3	
SM01 SILVER, TOTAL, BY ICAP	MG/KG	1.73		2.72		0.615	U	0.615	U	0.615	U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	1710		94500		8670		14300		12100	
SM03 ARSENIC, TOTAL, BY ICAP	MG/KG	839		0.950	U	0.950	U	1.65		1.26	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	1050		274		115		108		103	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.139	U	0.139	U	0.139	U	0.139	U	0.139	U
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	84.1		31.4		3.75		4.45		3.29	
SM07 COBALT, TOTAL, BY ICAP	MG/KG	21.7		10.9		6.37		9.55		8.53	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	7.78		174		11.7		15.6		14.8	
SM09 COPPER, TOTAL, BY ICAP	MG/KG	44.0		3290		21.0		17.7		10.4	
SM10 IRON, TOTAL, BY ICAP	MG/KG	392000		70100		17700		21400		15600	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	13800		588		328		361		533	
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	10.2		4.78		1.81		0.393	U	0.393	U
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	28.1		82.5		16.1		16.9		18.6	
SM14 LEAD, TOTAL, BY ICAP	MG/KG	332		747		128		12.9		6.19	
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG	0.561	U	10.8		0.561	U	2.98		1.20	
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	3.09	U	3.09	U	3.09	U	3.09	U	3.09	U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	3.15	U	19.6		3.15	U	4.97		3.15	U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	3.05	U	33.7		22.2		24.0		26.0	
SM20 ZINC, TOTAL, BY ICAP	MG/KG	560		38600		196		66.0		48.5	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	51000		23000		91800		3320		2590	
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	2550		4870		5180		2500		2560	
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	1150		409		266		163		164	
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	199		426		758		1100		718	
SP17 PCB-AROCLOR 1016	UG/KG	7000	U	990000	U	46	U	150	U	29	U
SP18 PCB-AROCLOR 1221	UG/KG	6000	U	850000	U	39	U	130	U	25	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	107		108		109		110		111	
SP19 PCB-AROCLOR 1232	UG/KG	2000	U	280000	U	13	U	42	U	8.3	U
SP20 PCB-AROCLOR 1242	UG/KG	1900	U	270000	U	12	U	40	U	7.9	U
SP21 PCB-AROCLOR 1248	UG/KG	43000		7300000		39		820		11	U
SP22 PCB-AROCLOR 1254	UG/KG	900	U	130000	U	43		19	U	9.2	U
SP23 PCB-AROCLOR 1260	UG/KG	1300	U	180000	U	8.2	U	26	U	5.2	U
SS01 PHENOL, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS04 CHLOROPHENOL, 2-	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS06 DICHLOROBENZENE,1,4-	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS07 BENZYL ALCOHOL	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS14 NITROBENZENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS15 ISOPHORONE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS16 NITROPHENOL,2-	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	510000	U	970000	U	440000	U	2200	U	2100	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	107		108		109		110		111	
SS23 CHLOROANILINE,4-	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	510000	U	970000	U	440000	U	2200	U	2100	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS31 NITROANILINE,2-	UG/KG	510000	U	970000	U	440000	U	2200	U	2100	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS34 NITROANILINE,3-	UG/KG	510000	U	970000	U	440000	U	2200	U	2100	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	510000	U	970000	U	440000	U	2200	U	2100	U
SS37 NITROPHENOL,4-	UG/KG	510000	U	970000	U	440000	U	2200	U	2100	U
SS38 DIBENZOFURAN	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS40 DINITROTOLUENE,2,6-	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS43 FLUORENE, GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS44 NITROANILINE,4-	UG/KG	510000	U	970000	U	440000	U	2200	U	2100	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	510000	U	970000	U	440000	U	2200	U	2100	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	107		108		109		110		111	
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	510000	U	970000	U	440000	U	2200	U	2100	U
SS50 PHENANTHRENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS51 ANTHRACENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS54 PYRENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS59 CHRYSENE, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	99000	U	190000	U	86000	U	420	U	410	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	37	U	39	U	19	U	22	U	16	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	74	U	77	U	38	U	44	U	31	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	56	U	58	U	28	U	33	U	23	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	56	U	58	U	28	U	33	U	23	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	37	U	39	U	19	U	22	U	16	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	18	U	19	U	9	U	11	U	8	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	107		108		109		110		111	
SV11 CHLOROFORM, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV17 BENZENE, BY GC/MS	UG/KG	19	U	19	U	9	U	11	U	8	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	18	U	19	U	9	U	11	U	8	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	19	U	19	U	9	U	11	U	8	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV24 BROMOFORM, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV26 TOLUENE, BY GC/MS	UG/KG	19	U	19	U	9	U	11	U	8	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV30 ACETONE, BY GC/MS	UG/KG	480		85	U	22	U	39	U	21	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV32 METHYL ETHYL KETONE	UG/KG	83		39	U	19	U	22	U	16	U
SV34 HEXANONE, 2-	UG/KG	37	U	39	U	19	U	22	U	16	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	37	U	39	U	19	U	22	U	16	U
SV36 STYRENE, BY GC/MS	UG/KG	18	U	19	U	9	U	11	U	8	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	18	U	19	U	9	U	11	U	8	U
SV49 XYLENE, ORTHO	UG/KG	18	U	19	U	9	U	11	U	8	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	107		108		109		110		111	
SV57 XYLENE, M AND/OR P	UG/KG	18	U	19	U	9	U	11	U	8	U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	18	U	19	U	9	U	11	U	8	U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	18	U	19	U	9	U	11	U	8	U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	19	U	19	U	9	U	11	U	8	U
ZZ01 SAMPLE NUMBER	NA	107		108		109		110		111	
ZZ02 ACTIVITY CODE	NA	FB2JJ		FB2JJ		FB2JJ		FB2JJ		FB2JJ	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	112	113	114	115	116
SG07 SOLIDS, PERCENT	%	80.3	76.9	78.5	79.7	78.9
SM01 SILVER, TOTAL, BY ICAP	MG/KG		0.615 U	0.615 U	0.615 U	0.615 U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG		17300	9190	10900	9750
SM03 ARSENIC, TOTAL, BY ICAP	MG/KG		0.950 U	0.950 U	0.950 U	0.950 U
SM04 BARIUM, TOTAL, BY ICAP	MG/KG		233	128	55.3	113
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG		0.139 U	0.139 U	0.139 U	0.139 U
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG		4.89	2.82	2.65	3.35
SM07 COBALT, TOTAL, BY ICAP	MG/KG		13.2	4.13	3.71	8.66
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG		19.8	16.5	19.9	10.5
SM09 COPPER, TOTAL, BY ICAP	MG/KG		13.6	12.7	6.99	11.9
SM10 IRON, TOTAL, BY ICAP	MG/KG		24200	14200	11100	13400
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG		792	431	119	822
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG		0.393 U	0.393 U	0.393 U	0.393 U
SM13 NICKEL, TOTAL, BY ICAP	MG/KG		23.0	14.3	11.4	20.3
SM14 LEAD, TOTAL, BY ICAP	MG/KG		18.3	11.5	6.43	9.12
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG		0.561 U	0.607	0.561 U	2.80
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG		3.09 U	3.09 U	3.09 U	3.09 U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG		3.15 U	3.15 U	4.00	3.76
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG		24.6	20.0	20.3	12.5
SM20 ZINC, TOTAL, BY ICAP	MG/KG		65.3	56.5	27.3	52.2
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG		3780	3220	1580	2280
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG		3380	2890	1780	2290
SM23 SODIUM, TOTAL, BY ICAP	MG/KG		250	270	139	130
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG		794	846	441	780
SP17 PCB-AROCLOR 1016	UG/KG	580 U	30 U	30 U	59 U	59 U
SP18 PCB-AROCLOR 1221	UG/KG	500 U	26 U	25 U	50 U	51 U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	112		113		114		115		116	
SP19 PCB-AROCLOR 1232	UG/KG	170	U	8.7	U	8.5	U	17	U	17	U
SP20 PCB-AROCLOR 1242	UG/KG	2800		8.2	U	12		16	U	16	U
SP21 PCB-AROCLOR 1248	UG/KG	220	U	12	U	11	U	840		170	
SP22 PCB-AROCLOR 1254	UG/KG	810		6.7	U	8.5	U	7.5	U	7.6	U
SP23 PCB-AROCLOR 1260	UG/KG	100	U	5.4	U	5.3	U	10	U	11	U
SS01 PHENOL, BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS04 CHLOROPHENOL, 2-	UG/KG			430	U	420	U	410	U	420	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS06 DICHLOROBENZENE,1,4-	UG/KG			430	U	420	U	410	U	420	U
SS07 BENZYL ALCOHOL	UG/KG			430	U	420	U	410	U	420	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG			430	U	420	U	410	U	420	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG			430	U	420	U	410	U	420	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG			430	U	420	U	410	U	420	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS14 NITROBENZENE, BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS15 ISOPHORONE, BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS16 NITROPHENOL,2-	UG/KG			430	U	420	U	410	U	420	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG			2200	U	2200	U	2100	U	2200	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG			430	U	420	U	410	U	420	U
SS21 TRICHLOROBENZENE,1,2,4 BY GC/MS	UG/KG			430	U	420	U	410	U	420	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG			430	U	420	U	410	U	420	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	112	113		114		115		116	
SS23 CHLOROANILINE,4-	UG/KG		430	U	420	U	410	U	420	U
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG		430	U	420	U	410	U	420	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG		430	U	420	U	410	U	420	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG		430	U	420	U	410	U	420	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG		2200	U	2200	U	2100	U	2200	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG		430	U	420	U	410	U	420	U
SS31 NITROANILINE,2-	UG/KG		2200	U	2200	U	2100	U	2200	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS34 NITROANILINE,3-	UG/KG		2200	U	2200	U	2100	U	2200	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG		2200	U	2200	U	2100	U	2200	U
SS37 NITROPHENOL,4-	UG/KG		2200	U	2200	U	2100	U	2200	U
SS38 DIBENZOFURAN	UG/KG		430	U	420	U	410	U	420	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS40 DINITROTOLUENE,2,6-	UG/KG		430	U	420	U	410	U	420	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG		430	U	420	U	410	U	420	U
SS43 FLUORENE, GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS44 NITROANILINE,4-	UG/KG		2200	U	2200	U	2100	U	2200	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG		2200	U	2200	U	2100	U	2200	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG		430	U	420	U	410	U	420	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	112	113		114		115		116	
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG		2200	U	2200	U	2100	U	2200	U
SS50 PHENANTHRENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS51 ANTHRACENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS54 PYRENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG		430	U	420	U	410	U	420	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG		430	U	420	U	410	U	420	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS59 CHRYSENE, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG		430	U	420	U	410	U	420	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG		430	U	420	U	410	U	420	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG		15	U	18	U	12	U	13	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG		31	U	36	U	24	U	25	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG		23	U	27	U	18	U	19	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG		23	U	27	U	18	U	19	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG		15	U	18	U	12	U	13	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG		8	U	9	U	6	U	6	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG		8	U	9	U	6	U	6	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG		8	U	9	U	6	U	6	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	112		113		114		115		116	
SV11 CHLOROFORM, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV17 BENZENE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG			8	U	9	U	6	U	6	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV24 BROMOFORM, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV26 TOLUENE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV30 ACETONE, BY GC/MS	UG/KG			16	U	25	U	18	U	14	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV32 METHYL ETHYL KETONE	UG/KG			15	U	18	U	12	U	13	U
SV34 HEXANONE, 2-	UG/KG			15	U	18	U	12	U	13	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG			15	U	18	U	12	U	13	U
SV36 STYRENE, BY GC/MS	UG/KG			8	U	9	U	6	U	6	U
SV44 DICHLOROBENZENE,1,4-	UG/KG			8	U	9	U	6	U	6	U
SV49 XYLENE, ORTHO	UG/KG			8	U	9	U	6	U	6	U

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	112		113		114		115		116	
SV57 XYLENE, M AND/OR P	UG/KG			8	U	9	U	6	U	6	U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG			8	U	9	U	6	U	6	U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG			8	U	9	U	6	U	6	U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG			8	U	9	U	6	U	6	U
ZZ01 SAMPLE NUMBER	NA	112		113		114		115		116	
ZZ02 ACTIVITY CODE	NA	FB2JJ		FB2JJ		FB2JJ		FB2JJ		FB2JJ	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	117		118		119			
SG07 SOLIDS, PERCENT	%	79.7		79.3		77.5			
SM01 SILVER, TOTAL, BY ICAP	MG/KG	0.615	U	0.615	U	0.615	U		
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	9790		10300		13000			
SM03 ARSENIC, TOTAL, BY ICAP	MG/KG	0.950	U	0.950	U	0.950	U		
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	96.7		176		95.1			
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.139	U	0.139	U	0.139	U		
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	3.34		3.88		3.50			
SM07 COBALT, TOTAL, BY ICAP	MG/KG	8.60		10.6		6.82			
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	12.9		13.6		16.3			
SM09 COPPER, TOTAL, BY ICAP	MG/KG	11.4		16.8		11.0			
SM10 IRON, TOTAL, BY ICAP	MG/KG	16500		17200		16400			
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	671		1780		348			
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.393	U	0.393	U	0.393	U		
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	18.1		29.9		16.6			
SM14 LEAD, TOTAL, BY ICAP	MG/KG	6.70		9.87		6.80			
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG	0.561	U	0.986		2.28			
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	3.09	U	3.09	U	3.09	U		
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	3.75		3.15	U	3.15	U		
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	25.5		13.8		24.9			
SM20 ZINC, TOTAL, BY ICAP	MG/KG	41.2		66.1		167			
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	2700		4210		2140			
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	2770		3830		2090			
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	137		178		488			
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	558		863		699			
SP17 PCB-AROCLOR 1016	UG/KG	44	U	29	U	30	U		
SP18 PCB-AROCLOR 1221	UG/KG	38	U	25	U	26	U		

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	117		118		119			
SP19 PCB-AROCLOR 1232	UG/KG	13	U	8.4	U	8.6	U		
SP20 PCB-AROCLOR 1242	UG/KG	12	U	8.0	U	8.2	U		
SP21 PCB-AROCLOR 1248	UG/KG	50		11	U	12	U		
SP22 PCB-AROCLOR 1254	UG/KG	33		3.9	U	8.3	U		
SP23 PCB-AROCLOR 1260	UG/KG	7.8	U	5.3	U	5.4	U		
SS01 PHENOL, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	410	U	420	U	430	U		
SS04 CHLOROPHENOL, 2-	UG/KG	410	U	420	U	430	U		
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS06 DICHLOROBENZENE,1,4-	UG/KG	410	U	420	U	430	U		
SS07 BENZYL ALCOHOL	UG/KG	410	U	420	U	430	U		
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	410	U	420	U	430	U		
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	410	U	420	U	430	U		
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	410	U	420	U	430	U		
SS12 N-NITROSODIPROPYLAMINE	UG/KG	410	U	420	U	430	U		
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS14 NITROBENZENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS15 ISOPHORONE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS16 NITROPHENOL,2-	UG/KG	410	U	420	U	430	U		
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS18 BENZOIC ACID, BY GC/MS	UG/KG	2100	U	2100	U	2200	U		
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	410	U	420	U	430	U		
SS20 DICHLOROPHENOL, 2,4-	UG/KG	410	U	420	U	430	U		
SS21 TRICHLOROBENZENE,1,2,4 BY GC/MS	UG/KG	410	U	420	U	430	U		
SS22 NAPHTHALENE, BY GC/MS	UG/KG	410	U	420	U	430	U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2 J LABORATORY APPROVED DATA PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	117		118		119			
SS23 CHLOROANILINE,4-	UG/KG	410	U	420	U	430	U		
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	410	U	420	U	430	U		
SS26 METHYLNAPHTHALENE, 2-	UG/KG	410	U	420	U	430	U		
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	410	U	420	U	430	U		
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	2100	U	2100	U	2200	U		
SS30 CHLORONAPHTHALENE, 2-	UG/KG	410	U	420	U	430	U		
SS31 NITROANILINE,2-	UG/KG	2100	U	2100	U	2200	U		
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS34 NITROANILINE,3-	UG/KG	2100	U	2100	U	2200	U		
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	2100	U	2100	U	2200	U		
SS37 NITROPHENOL,4-	UG/KG	2100	U	2100	U	2200	U		
SS38 DIBENZOFURAN	UG/KG	410	U	420	U	430	U		
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS40 DINITROTOLUENE,2,6-	UG/KG	410	U	420	U	430	U		
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	410	U	420	U	430	U		
SS43 FLUORENE, GC/MS	UG/KG	410	U	420	U	430	U		
SS44 NITROANILINE,4-	UG/KG	2100	U	2100	U	2200	U		
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	2100	U	2100	U	2200	U		
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	410	U	420	U	430	U		
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	410	U	420	U	430	U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 6-FB2JJ

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	117		118		119			
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	2100	U	2100	U	2200	U		
SS50 PHENANTHRENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS51 ANTHRACENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS53 FLUORANTHENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS54 PYRENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	410	U	420	U	430	U		
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	410	U	420	U	430	U		
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	410	U	420	U	430	U		
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	410	U	420	U	430	U		
SS59 CHRYSENE, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	410	U	420	U	430	U		
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	410	U	420	U	430	U		
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	410	U	420	U	430	U		
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	410	U	420	U	430	U		
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	410	U	420	U	430	U		
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	410	U	420	U	430	U		
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	410	U	420	U	430	U		
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	16	U	14	U	13	U		
SV04 BROMOMETHANE, BY GC/MS	UG/KG	32	U	28	U	26	U		
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	24	U	21	U	20	U		
SV06 CHLOROETHANE, BY GC/MS	UG/KG	24	U	21	U	20	U		
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	16	U	14	U	13	U		
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	8	U	7	U	7	U		

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	117		118		119			
SV11 CHLOROFORM, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV17 BENZENE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	8	U	7	U	7	U		
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV24 BROMOFORM, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV26 TOLUENE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV30 ACETONE, BY GC/MS	UG/KG	16	U	24	U	16	U		
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV32 METHYL ETHYL KETONE	UG/KG	16	U	14	U	13	U		
SV34 HEXANONE, 2-	UG/KG	16	U	14	U	13	U		
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	16	U	14	U	13	U		
SV36 STYRENE, BY GC/MS	UG/KG	8	U	7	U	7	U		
SV44 DICHLOROBENZENE,1,4-	UG/KG	8	U	7	U	7	U		
SV49 XYLENE, ORTHO	UG/KG	8	U	7	U	7	U		

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 6-FB2JJ   LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	117		118		119			
SV57 XYLENE, M AND/OR P	UG/KG	8	U	7	U	7	U		
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	8	U	7	U	7	U		
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	8	U	7	U	7	U		
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	26		7	U	7	U		
ZZ01 SAMPLE NUMBER	NA	117		118		119			
ZZ02 ACTIVITY CODE	NA	FB2JJ		FB2JJ		FB2JJ			

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

ACTIVITY FB2JJ   CARTER CARBURETOR

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, AIRS, OR ARCHIVE.

CIRCLE ONE: STORET   AIRS   ARCHIVE

DATA APPROVED BY LABO FOR TRANSMISSION TO PROJECT LEADER ON 01/24/96 14:14:30 BY Robert Brennell for JJ.

APPENDIX D

BISSELL POINT WASTE WATER TREATMENT PLANT ANALYTICAL DATA

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Technical Report

for

ST. LOUIS MSD

BISSELLE PLANT

10 EAST GRAND AVENUE

ST. LOUIS, MO 63147

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7776	ST. LOUIS MSD	STLMOMSDBI	TINFLUENT	850912		

Denis C. K. Lin, Ph.D.

Vice President
Research and Operations

This Technical Report is an INSITE℠ service generated by LODESTAR℠ Data Management Software.

TABLE OF CONTENTS

Introduction

This report contains the analytical results on your water sample, TINFLUENT 85/09/12. It is designed to include comprehensive data from the entire analytical process in order to satisfy the needs of various levels of review.

The results obtained from your sample are presented in tabular format immediately following this introduction. Quality assurance data is tabulated along with the appropriate sample results for verification. Depending on the analyses ordered, the quality assurance data may include results from blank, spiked blank, spiked sample (i.e. matrix spike) and replicate sample as well as results from surrogate compound analyses. Quality assurance data for verification of proper instrument performance is also included where appropriate. The report appendices include the chain of custody record for your sample and, where appropriate, the gas chromatograms and mass spectra.

The procedures used in the analysis of the sample are described in this report's methodology section. All analytical procedures within our laboratory are performed within a strictly enforced Quality Assurance Protocol. A description of this Protocol is included in the report.

Results

Sample results, and associated quality assurance data, are always tabulated in one or more of this report's Quantitative Results Tables. The format of each table varies with the class of analysis.

Priority Pollutants

The priority pollutant compounds and elements are listed with their NPDES (National Pollution Discharge Elimination System) numbers, and the Method Detection Limit (MDL) published in the Federal Register. When a compound or element is present below its published MDL it is reported as BMDL (Below Method Detection Limit). When a compound or element is not present at any detectable concentrations it is reported as ND (Not Detected). Matrix spike and replicate analyses, where included, were performed on samples randomly chosen within each quality assurance batch and are therefore not necessarily spikes and replicates of this report's sample. Surrogate compound recovery data and instrument calibration data are included in the Method Performance Data Tables.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

SEP 29, 198

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Volatile Compounds - GC/MS Analysis Data (QR01)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7776	ST. LOUIS MSD	STLMOMSDBI	TINFLUENT	850912		

NPDES Number	Compound (Acrolein and Acrylonitrile values are estimates only.)	Results: Sample Concen. ug/l	Results: MDL ug/l A	QC Replicate: First ug/l	QC Replicate: Second ug/l	QC Blank and Spiked Blank: Blank Data ug/l	QC Blank and Spiked Blank: Concen. Added ug/l	QC Blank and Spiked Blank: % Recov	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Reco
1V	Acrolein	ND	100	ND	ND	ND	800	97	ND	800	10
2V	Acrylonitrile	ND	100	ND	ND	ND	80.0	100	ND	80.0	11
3V	Benzene	BMDL	4.4	ND	.850	ND	18.0	103	ND	18.0	10
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	
5V	Bromoform	ND	4.7	ND	ND	ND	18.0	97	ND	18.0	10
6V	Carbon tetrachloride	ND	2.8	ND	.760	ND	18.0	108	ND	18.0	10
7V	Chlorobenzene	37.6	6.0	ND	.683	ND	18.0	107	ND	18.0	10
8V	Chlorodibromomethane	ND	3.1	1.85	2.43	ND	18.0	106	1.59	18.0	10
9V	Chloroethane	ND	10	ND	ND	ND	18.0	113	ND	18.0	10
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18.0	119	ND	18.0	11
11V	Chloroform	6.41	1.6	112	81.9	ND	18.0	95	98.6	18.0	(
12V	Dichlorobromomethane	ND	2.2	8.08	8.97	ND	18.0	105	7.57	18.0	8
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	18.0	129	ND	18.0	10
14V	1,1-Dichloroethane	ND	4.7	ND	ND	ND	18.0	109	ND	18.0	14
15V	1,2-Dichloroethane	ND	2.8	ND	ND	ND	18.0	106	ND	18.0	107
16V	1,1-Dichloroethylene	ND	2.8	ND	ND	ND	18.0	109	ND	18.0	104
17V	1,2-Dichloropropane	ND	6.0	ND	.644	ND	18.0	98	ND	18.0	102
18V	cis-1,3-Dichloropropylene	ND	5.0	ND	ND	ND	18.0	102	ND	18.0	94
19V	Ethylbenzene	BMDL	7.2	ND	.633	ND	18.0	105	ND	18.0	104
20V	Methyl bromide	ND	10	ND	ND	ND	18.0	111	ND	18.0	87
21V	Methyl chloride	ND	10	ND	ND	ND	18.0	124	ND	18.0	105
22V	Methylene chloride	9.20	2.8	19.0	18.2	3.62	18.0	142	13.4	18.0	161
23V	1,1,2,2-Tetrachloroethane	ND	6.9	ND	ND	ND	18.0	104	ND	18.0	110
24V	Tetrachloroethylene	17.5	4.1	ND	.762	ND	18.0	109	ND	18.0	111
25V	Toluene	74.6	6.0	ND	1.00	BMDL	18.0	101	2.60	18.0	96
26V	1,2-Trans-dichloroethylene	BMDL	1.6	ND	.508	ND	18.0	99	ND	18.0	118
27V	1,1,1-Trichloroethane	BMDL	3.8	.400	1.20	BMDL	18.0	106	ND	18.0	109
28V	1,1,2-Trichloroethane	ND	5.0	ND	ND	ND	18.0	105	ND	18.0	106
29V	Trichloroethylene	39.7	1.9	ND	.885	ND	18.0	101	ND	18.0	99
30V	Trichlorofluoromethane	ND	10	1.72	2.22	ND	18.0	111	7.78	18.0	67
31V	Vinyl chloride	ND	10	ND	ND	ND	18.0	110	ND	18.0	103
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18.0	97	ND	18.0	77

A EPA published Method Detection Limit.

B Spiked samples that contain compounds present at high levels do not provide valid spike recovery data.

C Recovery variable due to sample matrix interference.

SEP 25, 1985
QA3658

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Acid Compounds - GC/MS Analysis Data (QR02)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7776	ST. LOUIS MSD	STLMOMSDBI	TINFLUENT	850912		

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l	QC Replicate: First ug/l	QC Replicate: Second ug/l	QC Blank and Spiked Blank: Blank Data ug/l	QC Blank and Spiked Blank: Concen. Added ug/l	QC Blank and Spiked Blank: % Recov	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Recov
1A	2-Chlorophenol	ND	3.6	ND	ND	ND	100	87	ND	109	82
2A	2,4-Dichlorophenol	ND	2.9	ND	ND	ND	100	91	ND	109	82
3A	2,4-Dimethylphenol	6.53	2.9	ND	ND	ND	100	84	ND	109	74
4A	4,6-Dinitro-o-cresol	ND	26	ND	ND	ND	100	99	ND	109	83
5A	2,4-Dinitrophenol	ND	46	ND	ND	ND	100	104	ND	109	84
6A	2-Nitrophenol	ND	3.9	ND	ND	ND	100	84	ND	109	74
7A	4-Nitrophenol	185	2.6	ND	ND	ND	100	63	ND	109	60
8A	p-Chloro-m-cresol	ND	3.3	ND	ND	ND	100	91	ND	109	82
9A	Pentachlorophenol	ND	3.9	ND	ND	ND	100	100	ND	109	88
10A	Phenol	275	1.6	ND	ND	ND	100	48	ND	109	45
11A	2,4,6-Trichlorophenol	ND	2.9	ND	ND	ND	100	89	ND	109	79

ETC ENVIRONMENTAL TESTING and CERTIFICATION

OCT 1, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

BASE/NEUTRAL COMPOUNDS - GC/MS ANALYSIS DATA (QR03)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7776	ST. LOUIS MSD	STLMOMSDBI	TINFLUENT	850912		

NPDES Number	Compound	Results: Sample Concen, ug/l	Results: MDL ug/l a	QC Replicate: First ug/l	QC Replicate: Second ug/l	QC Blank and Spiked Blank: Blank Data ug/l	QC Blank and Spiked Blank: Concen. Added ug/l	QC Blank and Spiked Blank: % Recov	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Recov
1B	Acenaphthene	BMDL	2.1	ND	ND	ND	100	78	ND	109	82
2B	Acenaphthylene	ND	3.8	ND	ND	ND	100	78	ND	109	82
3B	Anthracene	ND	2.1	ND	ND	ND	100	94	ND	109	97
4B	Benzidine	ND	48	ND	ND	ND	100	5.	ND	109	4.
5B	Benzo(a)anthracene	ND	8.5	ND	ND	ND	100	89	ND	109	90
6B	Benzo(a)pyrene	ND	2.7	ND	ND	ND	100	87	ND	109	80
7B	Benzo(b)fluoroanthene	ND	5.2	ND	ND	ND	100	76	ND	109	90
8B	Benzo(ghi)perylene	ND	4.5	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	3.8	ND	ND	ND	100	85	ND	109	69
10B	bis(2-Chloroethoxy)methane	ND	5.8	ND	ND	ND	100	95	ND	109	92
11B	bis(2-Chloroethyl) ether	ND	6.2	ND	ND	ND	100	87	ND	109	84
12B	bis(2-Chloroisopropyl)ether	ND	6.2	ND	ND	ND	100	159	ND	109	161
13B	bis(2-Ethylhexyl)phthalate	11.3	11	ND	ND	ND	100	81	ND	109	77
14B	4-Bromophenyl phenyl ether	ND	2.1	ND	ND	ND	100	92	ND	109	93
15B	Butyl benzyl phthalate	BMDL	11	ND	ND	ND	100	65	ND	109	76
16B	2-Chloronaphthalene	ND	2.1	ND	ND	ND	100	68	ND	109	76
17B	4-Chlorophenyl phenyl ether	ND	4.6	ND	ND	ND	100	89	ND	109	96
18B	Chrysene	ND	2.7	ND	ND	ND	100	95	ND	109	89
19B	Dibenzo(a,h)anthracene	ND	11	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	2.1	ND	ND	ND	100	44	ND	109	44
21B	1,3-Dichlorobenzene	ND	2.1	ND	ND	ND	100	39	ND	109	39
22B	1,4-Dichlorobenzene	ND	4.8	ND	ND	ND	100	41	ND	109	41
23B	3,3'-Dichlorobenzidine	ND	18	ND	ND	ND	100	77	ND	109	59
24B	Diethyl phthalate	ND	11	ND	ND	ND	100	8.	ND	109	7.
25B	Dimethyl phthalate	ND	11	ND	ND	ND	100	5.	ND	109	2.
26B	Di-n-butyl phthalate	BMDL	11	ND	ND	ND	100	72	3.85	109	75
27B	2,4-Dinitrotoluene	ND	6.2	ND	ND	ND	100	83	ND	109	84
28B	2,6-Dinitrotoluene	ND	2.1	ND	ND	ND	100	86	ND	109	88
29B	Di-n-octyl phthalate	ND	11	ND	ND	ND	100	81	ND	109	73
30B	1,2-Diphenylhydrazine	ND	11	ND	ND	ND	100	84	ND	109	89
31B	Fluoranthene	ND	2.4	ND	ND	ND	100	102	ND	109	92
32B	Fluorene	BMDL	2.1	ND	ND	ND	100	82	ND	109	84

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

BASE/NEUTRAL COMPOUNDS - GC/MS ANALYSIS DATA (QR03)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7776	ST. LOUIS MSD	STLMOMSDBI	TINFLUENT	850912		

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l a	QC Replicate: First ug/l	QC Replicate: Second ug/l	QC Blank and Spiked Blank: Blank Data ug/l	QC Blank and Spiked Blank: Concen. Added ug/l	QC Blank and Spiked Blank: % Recov	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Recov
33B	Hexachlorobenzene	ND	2.1	ND	ND	ND	100	92	ND	109	89
34B	Hexachlorobutadiene	ND	.98	ND	ND	ND	100	28	ND	109	30
35B	Hexachlorocyclopentadiene	ND	11	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.7	ND	ND	ND	100	28	ND	109	26
37B	Indeno(1,2,3-c,d)pyrene	ND	5.1	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.4	ND	ND	ND	100	93	ND	109	89
39B	Naphthalene	7.93	1.7	ND	ND	ND	100	51	ND	109	51
40B	Nitrobenzene	ND	2.1	ND	ND	ND	100	89	ND	109	86
41B	N-Nitrosodimethylamine	ND	11	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	11	ND	ND	ND	100	96	ND	109	92
43B	N-Nitrosodiphenylamine	ND	2.1	ND	ND	ND	100	81	ND	109	81
44B	Phenanthrene	BMDL	5.9	ND	ND	ND	100	95	ND	109	97
45B	Pyrene	ND	2.1	ND	ND	ND	100	104	ND	109	91
46B	1,2,4-Trichlorobenzene	ND	2.1	ND	ND	ND	100	155	ND	109	133

a ETC established Method Detection Limit for this particular sample.

B Recovery normally low using EPA Protocol Method 625.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

OCT 1, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Pesticide/PCB Compounds - GC/MS Analysis Data (QR04)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7776	ST. LOUIS MSD	STLMOMSDBI	TINFLUENT	850912		

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l *	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov *	Unspiked Sample ug/l	Concen. Added ug/l	% Recov *
1P	Aldrin	ND	2.1	ND	ND	ND	100	83	ND	109	80
2P	Alpha-BHC	ND	11	ND	ND	ND	100	9	ND	109	22
3P	Beta-BHC	ND	4.8	ND	ND	ND	100	98	ND	109	109
4P	Gamma-BHC	ND	11	ND	ND	ND	100	0	ND	109	0
5P	Delta-BHC	ND	3.4	ND	ND	ND	100	13	ND	109	18
6P	Chlordane	ND	11	ND	ND	ND	200	113	ND	217	114
7P	4,4'-DDT	ND	3.0	ND	ND	ND	100	99	ND	109	101
8P	4,4'-DDE	ND	6.1	ND	ND	ND	100	102	ND	109	95
9P	4,4'-DDD	ND	5.1	ND	ND	ND	100	102	ND	109	105
10P	Dieldrin	ND	2.7	ND	ND	ND	100	99	ND	109	98
11P	Endosulfan I	ND	11	ND	ND	ND	100	14	ND	109	16
12P	Endosulfan II	ND	11	ND	ND	ND	100	12	ND	109	16
13P	Endosulfan sulfate	ND	6.1	ND	ND	ND	100	46	ND	109	59
14P	Endrin	ND	11	ND	ND	ND	100	89	ND	109	89
15P	Endrin aldehyde	ND	11	ND	ND	ND	100	89	ND	109	89
16P	Heptachlor	ND	2.1	ND	ND	ND	100	82	ND	109	77
17P	Heptachlor epoxide	ND	2.4	ND	ND	ND	100	111	ND	109	110
18P	PCB-1242	ND	39	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	39	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	33	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	39	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	39	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	39	ND	ND	ND	100	146	ND	109	142
24P	PCB-1016	ND	39	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	11	ND	ND	ND	0	-	ND	0	-

* ETC established Method Detection Limit for this particular sample.

* Recoveries normally low and variable using EPA Protocol Method 625.

SEP 30, 1985

TABLE 2: METHOD PERFORMANCE DATA
Surrogate Recovery Water - GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7776	ST. LOUIS MSD	STLMOMSDBI	TINFLUENT	85091		0

Compound	Amount added	% Recovery	Control Limits *	
			Lower	Upper
VOLATILE FRACTION				
Toluene-D8	.250	88	86	119
p-Bromofluorobenzene	.250	86	85	121
1,2-Dichloroethane-D4	.250	110	77	120
ACID FRACTION				
Phenol-D5	100	36	15	103
2-Fluorophenol	100	50	23	121
2,4,6-Tribromophenol	100	102	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	68	41	120
2-Fluorobiphenyl	50	78	44	119
Terphenyl-D14	50	50	33	128

* IFB EPA Control Limits

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Technical Report

for

ST. LOUIS MSD

BISSELLE PLANT

10 EAST GRAND AVENUE

ST. LOUIS, MO 63147

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7777	ST. LOUIS MSD	STLMOMSDBI	TOUTFALL001	850911	0600	0024

James N. Brown

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

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284 RARITAN CENTER PARKWAY • EDISON, NJ 08837 (201) 225-5600

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Introduction

This report contains the analytical results on your water sample, TOUTFALL001 85/09/11 06:00 24. It is designed to include comprehensive data from the entire analytical process in order to satisfy the needs of various levels of review.

The results obtained for your sample are presented in tabular format immediately following this introduction. Quality assurance data is tabulated along with the appropriate sample results for verification. Depending on the analyses ordered, the quality assurance data may include results from blank, spiked blank, spiked sample (i.e. matrix spike) and replicate sample as well as results from surrogate compound analyses. Quality assurance data for verification of proper instrument performance is also included where appropriate. The report appendices include the chain of custody record for your sample and, where appropriate, the gas chromatograms and mass spectra.

The procedures used in the analysis of the sample are described in this report's methodology section. All analytical procedures within our laboratory are performed within a strictly enforced Quality Assurance Protocol. A description of this Protocol is included in the report.

Results

Sample results, and associated quality assurance data, are always tabulated in one or more of this report's Quantitative Results Tables. The format of each table varies with the class of analysis.

Priority Pollutants

The priority pollutant compounds and elements are listed with their NPDES (National Pollution Discharge Elimination System) numbers, and the Method Detection Limit (MDL) published in the Federal Register. When a compound or element is present below its published MDL it is reported as BMDL (Below Method Detection Limit). When a compound or element is not present at any detectable concentrations it is reported as ND (Not Detected). Matrix spike and replicate analyses, where included, were performed on samples randomly chosen within each quality assurance batch and are therefore not necessarily spikes and replicates of this report's sample. Surrogate compound recovery data and instrument calibration data are included in the Method Performance Data Tables.

SEP 29, 1985

ETC ENVIRONMENTAL TESTING and CERTIFICATION

ETC ENVIRONMENTAL TESTING and CERTIFICATION

SEP 29, 198

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Volatile Compounds - GC/MS Analysis Data (QR01)

Chain of Custody Data Required for ETC Data Management Summary Reports						
J7777	ST. LOUIS MSD	STLMOMSDBI	TOUTFALL001	850911	0600	24
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

NPDES Number	Compound (Acrolein and Acrylonitrile values are screen only.)	Results: Sample Concen. ug/l	Results: MDL ug/l A	QC Replicate: First ug/l	QC Replicate: Second ug/l	QC Blank and Spiked Blank: Blank Data ug/l	QC Blank and Spiked Blank: Concen. Added ug/l	QC Blank and Spiked Blank: % Recov	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Rec
1V	Acrolein	ND	100	ND	ND	ND	800	97	ND	800	10
2V	Acrylonitrile	ND	100	ND	ND	ND	80.0	100	ND	80.0	11
3V	Benzene	BMDL	4.4	ND	.850	ND	18.0	103	ND	18.0	10
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	
5V	Bromoform	ND	4.7	ND	ND	ND	18.0	97	ND	18.0	10
6V	Carbon tetrachloride	ND	2.8	ND	.760	ND	18.0	108	ND	18.0	10
7V	Chlorobenzene	85.3	6.0	ND	.683	ND	18.0	107	ND	18.0	10
8V	Chlorodibromomethane	ND	3.1	1.85	2.43	ND	18.0	106	1.59	18.0	10
9V	Chloroethane	ND	10	ND	ND	ND	18.0	113	ND	18.0	10
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18.0	119	ND	18.0	11
11V	Chloroform	6.98	1.6	112	81.9	ND	18.0	95	98 6	18.0	
12V	Dichlorobromomethane	ND	2.2	8.08	8.97	ND	18.0	105	7.57	18.0	8
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	18.0	129	ND	18.0	10
14V	1,1-Dichloroethane	ND	4.7	ND	ND	ND	18.0	109	ND	18 0	14
15V	1,2-Dichloroethane	ND	2.8	ND	ND	ND	18.0	106	ND	18 0	10
16V	1,1-Dichloroethylene	ND	2.8	ND	ND	ND	18.0	109	ND	18.0	10
17V	1,2-Dichloropropane	ND	6.0	ND	.644	ND	18.0	98	ND	18.0	10
18V	cis-1,3-Dichloropropylene	ND	5.0	ND	ND	ND	18.0	102	ND	18.0	9
19V	Ethylbenzene	BMDL	7.2	ND	.633	ND	18.0	105	ND	18.0	10
20V	Methyl bromide	ND	10	ND	ND	ND	18.0	111	ND	18.0	8
21V	Methyl chloride	ND	10	ND	ND	ND	18.0	124	ND	18.0	10
22V	Methylene chloride	10.4	2.8	19.0	18.2	3.62	18.0	142	13 4	18 0	16
23V	1,1,2,2-Tetrachloroethane	ND	6.9	ND	ND	ND	18.0	104	ND	18 0	11
24V	Tetrachloroethylene	13.9	4.1	ND	.762	ND	18.0	109	ND	18 0	11
25V	Toluene	82.8	6.0	ND	1.00	BMDL	18.0	101	2 60	18.0	9
26V	1,2-Trans-dichloroethylene	1.77	1.6	ND	.508	ND	18.0	99	ND	18.0	11
27V	1,1,1-Trichloroethane	BMDL	3.8	.400	1.20	BMDL	18.0	106	ND	18.0	10
28V	1,1,2-Trichloroethane	ND	5.0	ND	ND	ND	18.0	105	ND	18.0	10
29V	Trichloroethylene	50.5	1.9	ND	.885	ND	18.0	101	ND	18.0	9
30V	Trichlorofluoromethane	ND	10	1.72	2.22	ND	18.0	111	7.78	18.0	6
31V	Vinyl chloride	ND	10	ND	ND	ND	18.0	110	ND	18.0	10
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18.0	97	ND	18.0	7

A EPA published Method Detection Limit.

B Spiked samples that contain compounds present at high levels do not provide valid spike recovery data.

C Recovery variable due to sample matrix interference.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

SEP 25, 1985
QA3658

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Acid Compounds - GC/MS Analysis Data (QR02)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7777	ST. LOUIS MSD	STLMOMSDBI	TOUTFALL001	850911	0600	24

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l	QC Replicate: First ug/l	QC Replicate: Second ug/l	QC Blank and Spiked Blank: Blank Data ug/l	QC Blank and Spiked Blank: Concen. Added ug/l	QC Blank and Spiked Blank: % Recov	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Recov
1A	2-Chlorophenol	ND	3.5	ND	ND	ND	100	87	ND	109	82
2A	2,4-Dichlorophenol	ND	2.8	ND	ND	ND	100	91	ND	109	82
3A	2,4-Dimethylphenol	5.04	2.8	ND	ND	ND	100	84	ND	109	74
4A	4,6-Dinitro-o-cresol	ND	25	ND	ND	ND	100	99	ND	109	83
5A	2,4-Dinitrophenol	ND	44	ND	ND	ND	100	104	ND	109	84
6A	2-Nitrophenol	ND	3.8	ND	ND	ND	100	84	ND	109	74
7A	4-Nitrophenol	103	2.5	ND	ND	ND	100	63	ND	109	60
8A	p-Chloro-m-cresol	ND	3.2	ND	ND	ND	100	91	ND	109	82
9A	Pentachlorophenol	BMDL	3.8	ND	ND	ND	100	100	ND	109	88
10A	Phenol	218	1.6	ND	ND	ND	100	48	ND	109	45
11A	2,4,6-Trichlorophenol	ND	2.8	ND	ND	ND	100	89	ND	109	79

ETC ENVIRONMENTAL TESTING and CERTIFICATION

OCT 1 1985

ETC ENVIRONMENTAL TESTING and CERTIFICATION

OCT 1, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

BASE/NEUTRAL COMPOUNDS - GC/MS ANALYSIS DATA (QR03)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7777	ST. LOUIS MSD	STLMOMSDBI	TOUTFALL001	850911	0600	24

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Reco
1B	Acenaphthene	BMDL	2.0	ND	ND	ND	100	78	ND	109	82
2B	Acenaphthylene	ND	3.7	ND	ND	ND	100	78	ND	109	82
3B	Anthracene	ND	2.0	ND	ND	ND	100	94	ND	109	97
4B	Benzidine	ND	46	ND	ND	ND	100	5.	ND	109	4
5B	Benzo(a)anthracene	ND	8.2	ND	ND	ND	100	89	ND	109	90
6B	Benzo(a)pyrene	ND	2.6	ND	ND	ND	100	87	ND	109	80
7B	Benzo(b)fluoroanthene	ND	5.1	ND	ND	ND	100	76	ND	109	90
8B	Benzo(ghi)perylene	ND	4.3	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	3.7	ND	ND	ND	100	85	ND	109	69
10B	bis(2-Chloroethoxy)methane	ND	5.6	ND	ND	ND	100	95	ND	109	92
11B	bis(2-Chloroethyl) ether	ND	6.0	ND	ND	ND	100	87	ND	109	84
12B	bis(2-Chloroisopropyl)ether	ND	6.0	ND	ND	ND	100	159	ND	109	161
13B	bis(2-Ethylhexyl)phthalate	BMDL	11	ND	ND	ND	100	81	ND	109	77
14B	4-Bromophenyl phenyl ether	ND	2.0	ND	ND	ND	100	92	ND	109	93
15B	Butyl benzyl phthalate	ND	11	ND	ND	ND	100	65	ND	109	76
16B	2-Chloronaphthalene	ND	2.0	ND	ND	ND	100	68	ND	109	76
17B	4-Chlorophenyl phenyl ether	ND	4.4	ND	ND	ND	100	89	ND	109	96
18B	Chrysene	ND	2.6	ND	ND	ND	100	95	ND	109	89
19B	Dibenzo(a,h)anthracene	ND	11	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	2.0	ND	ND	ND	100	44	ND	109	44
21B	1,3-Dichlorobenzene	ND	2.0	ND	ND	ND	100	39	ND	109	39
22B	1,4-Dichlorobenzene	ND	4.6	ND	ND	ND	100	41	ND	109	41
23B	3,3'-Dichlorobenzidine	ND	17	ND	ND	ND	100	77	ND	109	59
24B	Diethyl phthalate	ND	11	ND	ND	ND	100	8.	ND	109	7
25B	Dimethyl phthalate	ND	11	ND	ND	ND	100	5.	ND	109	2
26B	Di-n-butyl phthalate	BMDL	11	ND	ND	ND	100	72	3.85	109	75
27B	2,4-Dinitrotoluene	ND	6.0	ND	ND	ND	100	83	ND	109	84
28B	2,6-Dinitrotoluene	ND	2.0	ND	ND	ND	100	86	ND	109	88
29B	Di-n-octyl phthalate	ND	11	ND	ND	ND	100	81	ND	109	73
30B	1,2-Diphenylhydrazine	ND	11	ND	ND	ND	100	84	ND	109	89
31B	Fluoranthene	ND	2.3	ND	ND	ND	100	102	ND	109	92
32B	Fluorene	BMDL	2.0	ND	ND	ND	100	82	ND	109	84

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

BASE/NEUTRAL COMPOUNDS - GC/MS ANALYSIS DATA (QR03)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7777	ST. LOUIS MSD	STLMOMSDBI	TOUTFALL001	850911	0600	24

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l *	QC Replicate: First ug/l	QC Replicate: Second ug/l	QC Blank and Spiked Blank: Blank Data ug/l	QC Blank and Spiked Blank: Concen. Added ug/l	QC Blank and Spiked Blank: % Recov	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Recov
33B	Hexachlorobenzene	ND	2.0	ND	ND	ND	100	92	ND	109	89
34B	Hexachlorobutadiene	ND	.95	ND	ND	ND	100	28	ND	109	30
35B	Hexachlorocyclopentadiene	ND	11	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.7	ND	ND	ND	100	28	ND	109	26
37B	Indeno(1,2,3-c,d)pyrene	ND	4.9	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.3	ND	ND	ND	100	93	ND	109	89
39B	Naphthalene	9.86	1.7	ND	ND	ND	100	51	ND	109	51
40B	Nitrobenzene	ND	2.0	ND	ND	ND	100	89	ND	109	86
41B	N-Nitrosodimethylamine	ND	11	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	11	ND	ND	ND	100	96	ND	109	92
43B	N-Nitrosodiphenylamine	ND	2.0	ND	ND	ND	100	81	ND	109	81
44B	Phenanthrene	BMDL	5.7	ND	ND	ND	100	95	ND	109	97
45B	Pyrene	ND	2.0	ND	ND	ND	100	104	ND	109	91
46B	1,2,4-Trichlorobenzene	ND	2.0	ND	ND	ND	100	155	ND	109	133

* ETC established Method Detection Limit for this particular sample.

B Recovery normally low using EPA Protocol Method 625.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

OCT 1, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Pesticide/PCB Compounds - GC/MS Analysis Data (QR04)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7777	ST. LOUIS MSD	STLMOMSDBI	TOUTFALL001	850911	0600	24

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l *	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov *	Unspiked Sample ug/l	Concen. Added ug/l	% Recov
1P	Aldrin	ND	2.0	ND	ND	ND	100	83	ND	109	80
2P	Alpha-BHC	ND	11	ND	ND	ND	100	9	ND	109	22
3P	Beta-BHC	ND	4.6	ND	ND	ND	100	98	ND	109	109
4P	Gamma-BHC	ND	11	ND	ND	ND	100	0	ND	109	0
5P	Delta-BHC	ND	3.3	ND	ND	ND	100	13	ND	109	18
6P	Chlordane	ND	11	ND	ND	ND	200	113	ND	217	114
7P	4,4'-DDT	ND	2.9	ND	ND	ND	100	99	ND	109	101
8P	4,4'-DDE	ND	5.9	ND	ND	ND	100	102	ND	109	95
9P	4,4'-DDD	ND	4.9	ND	ND	ND	100	102	ND	109	105
10P	Dieldrin	ND	2.6	ND	ND	ND	100	99	ND	109	98
11P	Endosulfan I	ND	11	ND	ND	ND	100	14	ND	109	16
12P	Endosulfan II	ND	11	ND	ND	ND	100	12	ND	109	16
13P	Endosulfan sulfate	ND	5.9	ND	ND	ND	100	46	ND	109	59
14P	Endrin	ND	11	ND	ND	ND	100	89	ND	109	89
15P	Endrin aldehyde	ND	11	ND	ND	ND	100	89	ND	109	89
16P	Heptachlor	ND	2.0	ND	ND	ND	100	82	ND	109	77
17P	Heptachlor epoxide	ND	2.3	ND	ND	ND	100	111	ND	109	110
18P	PCB-1242	ND	38	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	38	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	32	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	38	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	38	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	38	ND	ND	ND	100	146	ND	109	142
24P	PCB-1016	ND	38	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	11	ND	ND	ND	0	-	ND	0	-

* ETC established Method Detection Limit for this particular sample.

* Recoveries normally low and variable using EPA Protocol Method 625.

TABLE 2: METHOD PERFORMANCE DATA
Surrogate Recovery Water – GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
J7777	ST. LOUIS MSD	STLMOMSDBI	TOUTFALL001	85091	0600	##

Compound	Amount added	% Recovery	Control Limits *	
			Lower	Upper
VOLATILE FRACTION				
Toluene-D8	.250	96	86	119
p-Bromofluorobenzene	.250	95	85	121
1,2-Dichloroethane-D4	.250	117	77	120
ACID FRACTION				
Phenol-D5	100	28	15	103
2-Fluorophenol	100	39	23	121
2,4,6-Tribromophenol	100	95	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	78	41	120
2-Fluorobiphenyl	50	78	44	119
Terphenyl-D14	50	54	33	128

* IFB EPA Control Limits

Fc.

MBP40495

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
Monthly Monitoring Reports for Wastewater Treatment Facilities

Name of Metropolitan St. Louis Sewer District
Facility: BISSELL POINT TREATMENT PLANT   Location: 10 EAST GRAND AVE., 63147   Region: ST. LOUIS

Month: APRIL, 1995   Permit Number: 0025178   Outfall Number: 001

Date
Collected: 04-04-95

Type Treatment Facility: Secondary

Final Clarifier Effluent - TOTAL TOXIC ORGANICS

Parameter	mg/l	Parameter	mg/l	Parameter	mg/l
Bromodichloromethane	< 0.001	Acrolein	< 0.001	Benzo(a)pyrene	< 0.001
Bromoform	< 0.001	Acrylonitrile	< 0.001	Benzo(b)fluoranthene	< 0.001
Bromomethane	< 0.001	Benzene	< 0.001	Benzo(g,h,i)perylene	< 0.001
Carbon Tetrachloride	< 0.001	1,2-Dichlorobenzene	< 0.001	Benzo(k)fluoranthene	< 0.001
Chlorobenzene	< 0.001	1,3-Dichlorobenzene	< 0.001	bis (2-chloroethoxy)methane	< 0.001
Chloroethane	< 0.001	1,4-Dichlorobenzene	< 0.001	bis (2-chloroethyl)ether	< 0.001
2-Chloroethyl vinyl ether	< 0.001	Ethylbenzene	< 0.001	bis (2-chloroisopropyl)ether	< 0.001
Chloroform	< 0.001	Toluene	< 0.001	bis (2-ethylhexyl)phthalate	< 0.001
Chloromethane	< 0.001	4-Chloro-3-methylphenol	< 0.001	4-Bromophenylphenylether	< 0.001
Dibromochloromethane	< 0.001	2-Chlorophenol	< 0.001	Butylbenzylphthalate	< 0.001
1,1-Dichloroethane	< 0.001	2,4-Dichlorophenol	< 0.001	2-Chloronaphthalene	< 0.001
1,2-Dichloroethane	< 0.001	2,4-Dimethylphenol	< 0.001	4-Chlorophenylphenylether	< 0.001
1,1-Dichloroethene	< 0.001	4,6-dinitro-2-methylphenol	< 0.001	Chrysene	< 0.001
trans-1,2-Dichloroethene	< 0.001	2,4-Dinitrophenol	< 0.001	Dibenzo(a,h)anthracene	< 0.001
1,2-Dichloropropane	< 0.001	2-Nitrophenol	< 0.001	3,3-Dichlorobenzidine	< 0.001
cis-1,3-Dichloropropene	< 0.001	4-Nitrophenol	< 0.001	Diethylphthalate	< 0.001
trans-1,3-Dichloropropene	< 0.001	Pentachlorophenol	< 0.001	Dimethylphthalate	< 0.001
Methylene Chloride	0.749	Phenol	< 0.001	Di-n-butylphthalate	< 0.001
1,1,2,2-Tetrachloroethane	< 0.001	2,4,6-Trichlorophenol	< 0.001	Di-n-octylphthalate	< 0.001
Tetrachloroethene	< 0.001	Acenaphthene	< 0.001	2,4-Dinitrotoluene	< 0.001
1,1,1-Trichloroethane	< 0.001	Acenaphthylene	< 0.001	2,6-Dinitrotoluene	< 0.001
1,1,2-Trichloroethane	< 0.001	Anthracene	< 0.001	1,2-Diphenylhydrazine	< 0.001
Trichloroethene	< 0.001	Benzidine	< 0.001	Fluoranthene	< 0.001
Vinyl Chloride	< 0.001	Benzo(a)anthracene	< 0.001	Fluorene	< 0.001

Approved by: Jeff Herman

Title: Plant Superintendent

Date: 7/26/95

MBP50495

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
Monthly Monitoring Reports for Wastewater Treatment Facilities

Name of Facility: Metropolitan St. Louis Sewer District BISSELL POINT TREATMENT PLANT
Location: 10 EAST GRAND AVE., 63147
Region: ST. LOUIS

Month: APRIL, 1995
Permit Number: 0025178
Outfall Number: 001

Date Collected: 04-04-95

Type Treatment Facility: Secondary

Final Clarifier Effluent - TOTAL TOXIC ORGANICS

Parameter	mg/l	Parameter	mg/l
Hexachlorobenzene	< 0.001	alpha-Endosulfan	< 0.0001
Hexachlorobutadiene	< 0.001	beta-Endosulfan	< 0.0001
Hexachlorocyclopentadiene	< 0.001	Endosulfan sulfate	< 0.0001
Hexachloroethane	< 0.001	Endrin	< 0.0001
Indeno(1,2,3-cd)pyrene	< 0.001	Endrin aldehyde	< 0.0001
Isophorone	< 0.001	Heptachlor epoxide	< 0.0001
Naphthalene	< 0.001	Heptachlor	< 0.0001
Nitrobenzene	< 0.001	PCB-1016	< 0.0001
N-Nitrosodimethylamine	< 0.001	PCB-1221	< 0.0001
N-Nitrosodi-n-propylamine	< 0.001	PCB-1232	< 0.0001
N-Nitrosodiphenylamine	< 0.001	PCB-1242	< 0.0001
Phenanthrene	< 0.001	PCB-1248	< 0.0001
Pyrene	< 0.001	PCB-1254	< 0.0001
1,2,4-Trichlorobenzene	< 0.001	PCB-1260	< 0.0001
Aldrin	< 0.0001	Toxaphene	< 0.0001
alpha-BHC	< 0.0001		
beta-BHC	< 0.0001		
gamma-BHC	< 0.0001		
delta-BHC	< 0.0001		
Chlordane	< 0.0001		
4,4'-DDD	< 0.0001		
4,4-DDE	< 0.0001		
4,4-DDT	< 0.0001		
Dieldrin	< 0.0001		

Approved by: Jeff Harmon

Title: Plant Superintendent

Date: 7/26/95

NBP40594

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
Monthly Monitoring Reports for Wastewater Treatment Facilities

Name of Metropolitan St. Louis Sewer District
Facility: BISSELL POINT TREATMENT PLANT Location: 10 EAST GRAND AVE., 63147 Region: ST. LOUIS

Month: APRIL - JUNE, 1994 Permit Number: 0025178 Outfall Number: 001

Date
Collected: 04-05-94

Type Treatment Facility: Secondary

FINAL EFFLUENT

Parameter	mg/l	Parameter	mg/l	Parameter	mg/l
Bromodichloromethane	< 0.001	Acrolein	< 0.001	Benzo(a)pyrene	< 0.001
Bromoform	< 0.001	Acrylonitrile	< 0.001	Benzo(b)fluoranthene	< 0.001
Bromomethane	< 0.001	Benzene	< 0.001	Benzo(g,h,i)perylene	< 0.001
Carbon Tetrachloride	< 0.001	1,2-Dichlorobenzene	< 0.001	Benzo(k)fluoranthene	< 0.001
Chlorobenzene	< 0.001	1,3-Dichlorobenzene	< 0.001	bis (2-chloroethoxy)methane	< 0.001
Chloroethane	< 0.001	1,4-Dichlorobenzene	< 0.001	bis (2-chloroethyl)ether	< 0.001
2-Chloroethyl vinyl ether	< 0.001	Ethylbenzene	< 0.001	bis (2-chloroisopropyl)ether	< 0.001
Chloroform	< 0.001	Toluene	< 0.001	bis (2-ethylhexyl)phthalate	< 0.001
Chloromethane	< 0.001	4-Chloro-3-methylphenol	< 0.001	4-Bromophenylphenylether	< 0.001
Dibromochloromethane	< 0.001	2-Chlorophenol	< 0.001	Butylbenzylphthalate	< 0.001
1,1-Dichloroethane	< 0.001	2,4-Dichlorophenol	< 0.001	2-Chloronaphthalene	< 0.001
1,2-Dichloroethane	< 0.001	2,4-Dimethylphenol	< 0.001	4-Chlorophenylphenylether	< 0.001
1,1-Dichloroethene	< 0.001	4,6-dinitro-2-methylphenol	< 0.001	Chrysene	< 0.001
trans-1,2-Dichloroethene	< 0.001	2,4-Dinitrophenol	< 0.001	Dibenzo(a,h)anthracene	< 0.001
1,2-Dichloropropane	< 0.001	2-Nitrophenol	< 0.001	3,3-Dichlorobenzidine	< 0.001
cis-1,3-Dichloropropene	< 0.001	4-Nitrophenol	< 0.001	Diethylphthalate	< 0.001
trans-1,3-Dichloropropene	< 0.001	Pentachlorophenol	< 0.001	Dimethylphthalate	< 0.001
Methylene Chloride	< 0.001	Phenol	< 0.001	Di-n-butylphthalate	< 0.001
1,1,2,2-Tetrachloroethane	< 0.001	2,4,6-Trichlorophenol	< 0.001	Di-n-octylphthalate	< 0.001
Tetrachloroethene	< 0.001	Acenaphthene	< 0.001	2,4-Dinitrotoluene	< 0.001
1,1,1-Trichloroethane	< 0.001	Acenaphthylene	< 0.001	2,6-Dinitrotoluene	< 0.001
1,1,2-Trichloroethane	< 0.001	Anthracene	< 0.001	1,2-Diphenylhydrazine	< 0.001
Trichloroethene	< 0.001	Benzidine	< 0.001	Fluoranthene	< 0.001
Vinyl Chloride	< 0.001	Benzo(a)anthracene	< 0.001	Fluorene	< 0.001

Approved by:

Title: Plant Superintendent

Date:

NBP50494

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
Monthly Monitoring Reports for Wastewater Treatment Facilities

Name of Metropolitan St. Louis Sewer District
Facility: BISSELL POINT TREATMENT PLANT   Location: 10 EAST GRAND AVE., 63147   Region: ST. LOUIS

Month: APRIL - JUNE, 1994   Permit Number: 0025178   Outfall Number: 001

Date
Collected: 04-05-94

Type Treatment Facility: Secondary

Parameter	mg/l	Parameter	mg/l
Hexachlorobenzene	< 0.001	alpha-Endosulfan	< 0.001
Hexachlorobutadiene	< 0.001	beta-Endosulfan	< 0.001
Hexachlorocyclopentadiene	< 0.001	Endosulfan sulfate	< 0.001
Hexachloroethane	< 0.001	Endrin	< 0.001
Indeno(1,2,3-cd)pyrene	< 0.001	Endrin aldehyde	< 0.001
Isophorone	< 0.001	Heptachlor epoxide	< 0.001
Naphthalene	< 0.001	Heptachlor	< 0.001
Nitrobenzene	< 0.001	PCB-1016	< 0.050
N-Nitrosodimethylamine	< 0.001	PCB-1221	< 0.050
N-Nitrosodi-n-propylamine	< 0.001	PCB-1232	< 0.050
N-Nitrosodiphenylamine	< 0.001	PCB-1242	< 0.050
Phenanthrene	< 0.001	PCB-1248	< 0.050
Pyrene	< 0.001	PCB-1254	< 0.050
1,2,4-Trichlorobenzene	< 0.001	PCB-1260	< 0.050
Aldrin	< 0.001	Toxaphene	< 0.050
alpha-BHC	< 0.001		
beta-BHC	< 0.001		
gamma-BHC	< 0.001		
delta-BHC	< 0.001		
Chlordane	< 0.050		
4,4'-DDD	< 0.001		
4,4-DDE	< 0.001		
4,4-DDT	< 0.001		
Dieldrin	< 0.001		

Approved by:

Title: Plant Superintendent

Date:

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
Monthly Monitoring Reports for Wastewater Treatment Facilities

Name of Facility: Metropolitan St. Louis Sewer District BISSELL POINT TREATMENT PLANT

Location: 10 EAST GRAND AVE., 63147

Region: ST. LOUIS

Month: APRIL, 1995

Permit Number: 0025178

Outfall Number: 001

Type Treatment Facility: Secondary

SLUDGE MONITORING - Priority Pollutants

Parameter		mg/kg
Antimony	(Sb)	1.15
Arsenic	(As)	16.0
Beryllium	(Be)	1.00
Cadmium	(Cd)	17.0
Chromium	(Cr)	146
Copper	(Cu)	271
Lead	(Pb)	144
Mercury	(Hg)	0.450
Nickel	(Ni)	108
Selenium	(Se)	4.00
Silver	(Ag)	16.5
Thallium	(Tl)	< 5.0
Zinc	(Zn)	810
Cyanide	(Cn)	7.80

Sample Date: 4-04-1995

Approved by: Jeff Thaman

Title: Plant Superintendent

Date: 7/26/95

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
Monthly Monitoring Reports for Wastewater Treatment Facilities

Name of Metropolitan St. Louis Sewer District
Facility: BISSELL POINT TREATMENT PLANT   Location: 10 EAST GRAND AVE., 63147   Region: ST. LOUIS

Month: APRIL, 1995   Permit Number: 0025178   Outfall Number: 001

Date
Collected: 04-04-95

Type Treatment Facility: Secondary

Parameter	mg/kg	Parameter	mg/kg	Parameter	mg/kg
Bromodichloromethane	< 0.005	Acrolein	< 0.005	Benzo(a)pyrene	< 0.102
Bromoform	< 0.005	Acrylonitrile	< 0.005	Benzo(b)fluoranthene	< 0.102
Bromomethane	< 0.005	Benzene	< 0.005	Benzo(g,h,i)perylene	< 0.102
Carbon Tetrachloride	< 0.005	1,2-Dichlorobenzene	< 0.005	Benzo(k)fluoranthene	< 0.102
Chlorobenzene	< 0.005	1,3-Dichlorobenzene	< 0.005	bis (2-chloroethoxy)methane	< 0.102
Chloroethane	< 0.005	1,4-Dichlorobenzene	< 0.005	bis (2-chloroethyl)ether	< 0.102
2-Chloroethyl vinyl ether	< 0.005	Ethylbenzene	< 0.005	bis (2-chloroisopropyl)ether	< 0.102
Chloroform	0.117	Toluene	1.401	bis (2-ethylhexyl)phthalate	< 0.102
Chloromethane	< 0.005	4-Chloro-3-methylphenol	< 0.102	4-Bromophenylphenylether	< 0.102
Dibromochloromethane	< 0.005	2-Chlorophenol	< 0.102	Butylbenzylphthalate	< 0.102
1,1-Dichloroethane	< 0.005	2,4-Dichlorophenol	< 0.102	2-Chloronaphthalene	< 0.102
1,2-Dichloroethane	< 0.005	2,4-Dimethylphenol	< 0.102	4-Chlorophenylphenylether	< 0.102
1,1-Dichloroethene	< 0.005	4,6-dinitro-2-methylphenol	< 0.102	Chrysene	< 0.102
trans-1,2-Dichloroethene	< 0.005	2,4-Dinitrophenol	< 0.102	Dibenzo(a,h)anthracene	< 0.102
1,2-Dichloropropane	< 0.005	2-Nitrophenol		3,3-Dichlorobenzidine	< 0.102
cis-1,3-Dichloropropene	< 0.005	4-Nitrophenol		Diethyl phthalate	0.199
trans-1,3-Dichloropropene	< 0.005	Pentachlorophenol	< 0.102	Dimethyl phthalate	< 0.102
Methylene Chloride	0.078	Phenol	6.00	Di-n-butyl phthalate	0.798
1,1,2,2-Tetrachloroethane	< 0.005	2,4,6-Trichlorophenol	< 0.102	Di-n-octyl phthalate	< 0.102
Tetrachloroethene	0.029	Acenaphthene	< 0.102	2,4-Dinitrotoluene	< 0.102
1,1,1-Trichloroethane	< 0.005	Acenaphthylene	< 0.102	2,6-Dinitrotoluene	< 0.102
1,1,2-Trichloroethane	< 0.005	Anthracene	< 0.102	1,2-Diphenylhydrazine	< 0.102
Trichloroethene	< 0.005	Benzidine	< 0.102	Fluoranthene	< 0.102
Vinyl Chloride	< 0.005	Benzo(a)anthracene	< 0.102	Fluorene	< 0.102

Approved by: Jeff Sherman

Title: Plant Superintendent

Date: 7/26/95

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
Monthly Monitoring Reports for Wastewater Treatment Facilities

Name of Facility: Metropolitan St. Louis Sewer District BISSELL POINT TREATMENT PLANT   Location: 10 EAST GRAND AVE., 63147   Region: ST. LOUIS

Month: APRIL, 1994   Permit Number: 0025178   Outfall Number: 001

Date Collected: 04-04-95

Type Treatment Facility: Secondary

Parameter	mg/kg	Parameter	mg/kg
Hexachlorobenzene	< 0.102	alpha-Endosulfan	< 0.019
Hexachlorobutadiene	< 0.102	beta-Endosulfan	< 0.019
Hexachlorocyclopentadiene	< 0.102	Endosulfan sulfate	< 0.019
Hexachloroethane	< 0.102	Endrin	< 0.019
Indeno(1,2,3-cd)pyrene	< 0.102	Endrin aldehyde	< 0.019
Isophorone	< 0.102	Heptachlor epoxide	< 0.019
Naphthalene	0.199	Heptachlor	< 0.019
Nitrobenzene	< 0.102	PCB-1016	< 0.019
N-Nitrosodimethylamine	< 0.102	PCB-1221	< 0.019
N-Nitrosodi-n-propylamine	< 0.102	PCB-1232	< 0.019
N-Nitrosodiphenylamine	< 0.102	PCB-1242	< 0.019
Phenanthrene	0.199	PCB-1248	< 0.019
Pyrene	< 0.102	PCB-1254	< 0.019
1,2,4-Trichlorobenzene	< 0.102	PCB-1260	< 0.019
Aldrin	< 0.019	Toxaphene	< 0.019
alpha-BHC	< 0.019		
beta-BHC	< 0.019		
gamma-BHC	< 0.019		
delta-BHC	< 0.019		
Chlordane	< 0.019		
4,4'-DDD	< 0.019		
4,4-DDE	< 0.019		
4,4-DDT	< 0.019		
Dieldrin	< 0.019		

Approved by: Jeff Theerman
Title: Plant Superintendent
Date: 7/26/95

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
Monthly Monitoring Reports for Wastewater Treatment Facilities

Name of Metropolitan St. Louis Sewer District
Facility: BISSELL POINT TREATMENT PLANT Location: 10 EAST GRAND AVE., 63147 Region: ST. LOUIS

Month: APRIL, 1994 Permit Number: 0025178 Outfall Number: 001

Date
Collected: 04-19-94

Type Treatment Facility: Secondary

PRIORITY POLLUTANTS – SLUDGE

Parameter	mg/kg	Parameter	mg/kg	Parameter	mg/kg
Bromodichloromethane	< 0.004	Acrolein	< 0.004	Benzo(a)pyrene	< 0.103
Bromoform	< 0.004	Acrylonitrile	< 0.004	Benzo(b)fluoranthene	< 0.103
Bromomethane	< 0.004	Benzene	< 0.004	Benzo(q,h,i)perylene	< 0.103
Carbon Tetrachloride	< 0.004	1,2-Dichlorobenzene	< 0.004	Benzo(k)fluoranthene	< 0.103
Chlorobenzene	< 0.004	1,3-Dichlorobenzene	< 0.004	bis (2-chloroethoxy)methane	< 0.103
Chloroethane	< 0.004	1,4-Dichlorobenzene	< 0.004	bis (2-chloroethyl)ether	< 0.103
2-Chloroethyl vinyl ether	< 0.004	Ethylbenzene	< 0.004	bis (2-chloroisopropyl)ether	< 0.103
Chloroform	< 0.004	Toluene	0.304	bis (2-ethylhexyl)phthalate	< 0.103
Chloromethane	< 0.004	4-Chloro-3-methylphenol	< 0.103	4-Bromophenylphenylether	< 0.103
Dibromochloromethane	< 0.004	2-Chlorophenol	< 0.103	Butylbenzylphthalate	< 0.103
1,1-Dichloroethane	< 0.004	2,4-Dichlorophenol	< 0.103	2-Chloronaphthalene	< 0.103
1,2-Dichloroethane	< 0.004	2,4-Dimethylphenol	< 0.103	4-Chlorophenylphenylether	< 0.103
1,1-Dichloroethene	< 0.004	4,6-dinitro-2-methylphenol	< 0.103	Chrysene	< 0.103
trans-1,2-Dichloroethene	< 0.004	2,4-Dinitrophenol	< 0.103	Dibenzo(a,h)anthracene	< 0.103
1,2-Dichloropropane	< 0.004	2-Nitrophenol	< 0.103	3,3-Dichlorobenzidine	< 0.103
cis-1,3-Dichloropropene	< 0.004	4-Nitrophenol	< 0.103	Diethylphthalate	< 0.103
trans-1,3-Dichloropropene	< 0.004	Pentachlorophenol	< 0.103	Dimethylphthalate	< 0.103
Methylene Chloride	< 0.004	Phenol	0.312	Di-n-butylphthalate	< 0.103
1,1,2,2-Tetrachloroethane	< 0.004	2,4,6-Trichlorophenol	< 0.103	Di-n-octylphthalate	< 0.103
Tetrachloroethene	< 0.004	Acenaphthene	< 0.103	2,4-Dinitrotoluene	< 0.103
1,1,1-Trichloroethane	< 0.004	Acenaphthylene	< 0.103	2,6-Dinitrotoluene	< 0.103
1,1,2-Trichloroethane	< 0.004	Anthracene	< 0.103	1,2-Diphenylhydrazine	< 0.103
Trichloroethene	< 0.004	Benzidine	< 0.103	Fluoranthene	< 0.103
Vinyl Chloride	< 0.004	Benzo(a)anthracene	< 0.103	Fluorene	< 0.103

Approved by: Jeff Thurman

Title: Plant Superintendent

Date:

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
Monthly Monitoring Reports for Wastewater Treatment Facilities

Name of Metropolitan St. Louis Sewer District
Facility: BISSELL POINT TREATMENT PLANT Location: 10 EAST GRAND AVE., 63147 Region: ST. LOUIS

Month: APRIL, 1994 Permit Number: 0025178 Outfall Number: 001

Date
Collected: 04-19-94

Type Treatment Facility: Secondary

PRIORITY POLLUTANTS

Parameter	mg/kg	Parameter	mg/kg
Hexachlorobenzene	< 0.103	alpha-Endosulfan	< 0.103
Hexachlorobutadiene	< 0.103	beta-Endosulfan	< 0.103
Hexachlorocyclopentadiene	< 0.103	Endosulfan sulfate	< 0.103
Hexachloroethane	< 0.103	Endrin	< 0.103
Indeno(1,2,3-cd)pyrene	< 0.103	Endrin aldehyde	< 0.103
Isophorone	< 0.103	Heptachlor epoxide	< 0.103
Naphthalene	< 0.103	Heptachlor	< 0.103
Nitrobenzene	< 0.103	PCB-1016	< 5.228
N-Nitrosodimethylamine	< 0.103	PCB-1221	< 5.228
N-Nitrosodi-n-propylamine	< 0.103	PCB-1232	< 5.228
N-Nitrosodiphenylamine	< 0.103	PCB-1242	< 5.228
Phenanthrene	< 0.103	PCB-1248	< 5.228
Pyrene	< 0.103	PCB-1254	< 5.228
1,2,4-Trichlorobenzene	< 0.103	PCB-1260	< 5.228
Aldrin	< 0.103	Toxaphene	< 5.228
alpha-BHC	< 0.103		
beta-BHC	< 0.103		
gamma-BHC	< 0.103		
delta-BHC	< 0.103		
Chlordane	< 5.228		
4,4'-DDD	< 0.103		
4,4-DDE	< 0.103		
4,4-DDT	< 0.103		
Dieldrin	< 0.103		

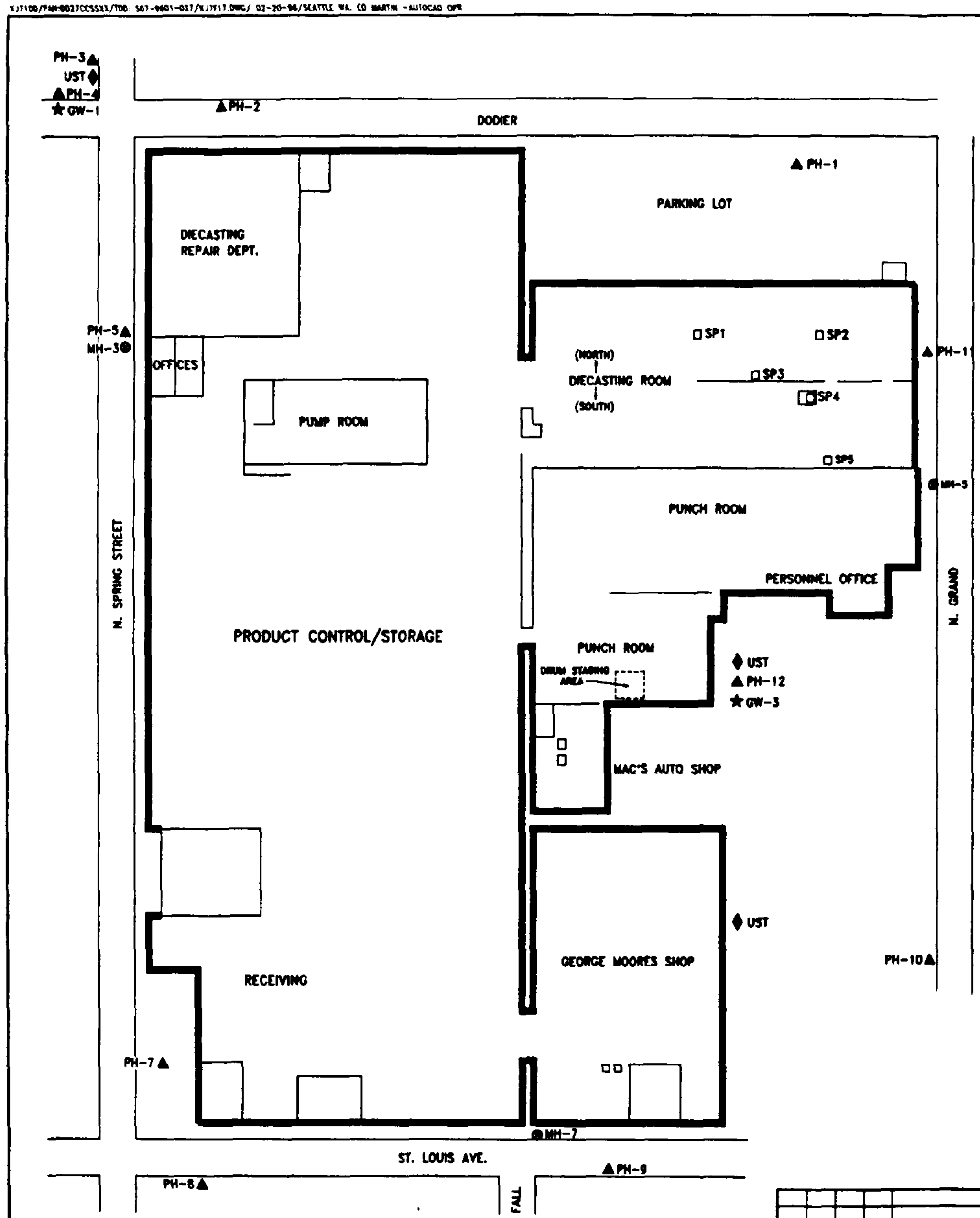
Approved by:

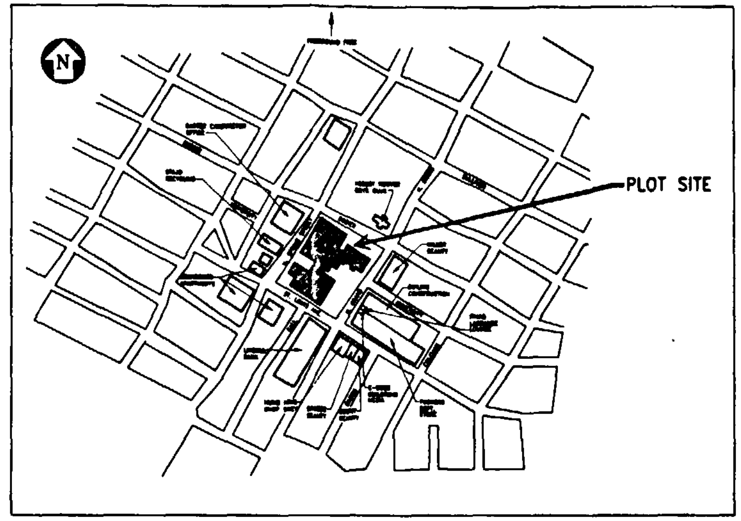
Title: Plant Superintendent

Date:

APPENDIX E

SITE DRAWINGS: SITE LOCATION, FIRST FLOOR, SECOND FLOOR, THIRD FLOOR, AND BASEMENT





KEY PLAN

LEGEND

□	SP7	SUMP SAMPLE LOCATION
▲	PH-21	GEOPROBE SUBSURFACE SOIL SAMPLE LOCATION
●	MH-12	MANHOLE SEDIMENT SAMPLE LOCATION
★	GW-7	GEOPROBE GROUND WATER SAMPLE LOCATION
♦	UST	POTENTIAL UNDERGROUND STORAGE TANK LOCATIONS

APPROXIMATE SCALE IN FEET

0 100 200 300

ecology and environment, inc.
International Specialists in the Environment

DESIGNED BY: ED MARTIN
CHECKED BY: SCOTT HAYES
DRAWN BY: ED MARTIN

APPROVED BY: SCOTT HAYES

SAMPLE LOCATION
FIRST FLOOR

CARTER CARBURATOR
ST. LOUIS, MISSOURI

KJ7100/PAH:0027CCSSXX/TDD: S07-9601-027/KJ7517.DWG/01-22-96/SEATTLE WA. ED MARTIN -AUTOCAD OPR

LEGEND

- ● SS14 SURFACE SOIL SAMPLE LOCATION
- ▲ PH-21 GEOPROBE SUBSURFACE SOIL SAMPLE LOCATION
- ★ GW-7 GEOPROBE GROUNDWATER SAMPLE LOCATION
- ⌂ DW-6 PUBLIC DRINKING WATER SYSTEM SAMPLE LOCATION

ecology and environment, inc.
International Specialists in the Environment

DESIGNED BY: ED MARTIN

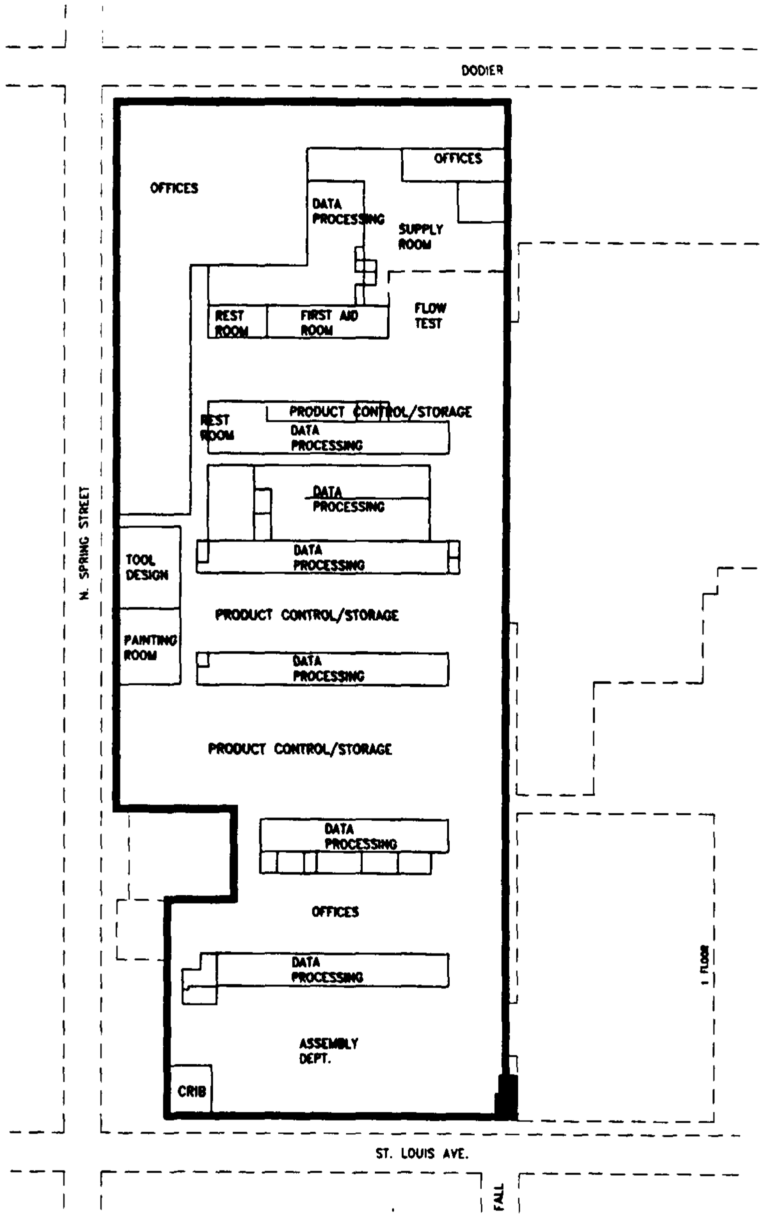
CHECKED BY: SCOTT HAYES

DRAWN BY: ED MARTIN

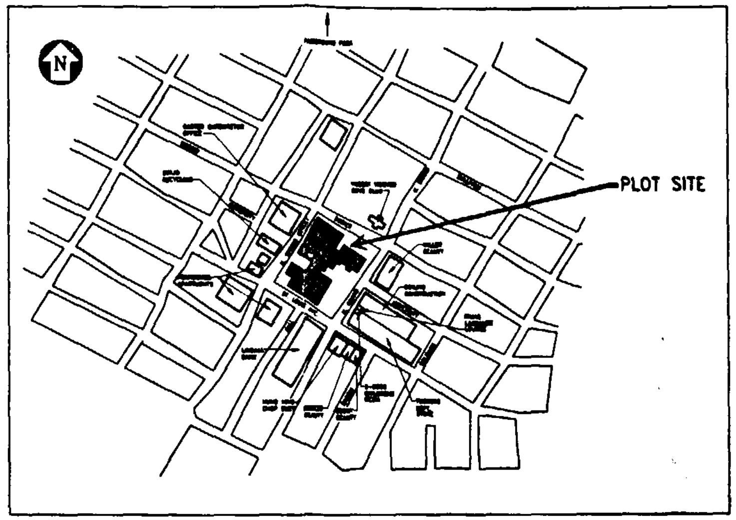
APPROVED BY: SCOTT HAYES

SAMPLE LOCATION
SITE LOCATION
CARTER CARBURATOR
ST. LOUIS, MISSOURI

KJ7100/PAN:0027CCSSXX/TDD: S07-9601-027/KJ7SE17.DWG/ 01-22-96/SEATTLE WA. ED MARTIN -AUTOCAD OPR



SECOND FLOOR



KEY PLAN

LEGEND

□	SP7	SUMP SAMPLE LOCATION
▲	PH-21	GEOPROBE SUBSURFACE SOIL SAMPLE LOCATION
●	MH-12	MANHOLE SEDIMENT SAMPLE LOCATION
★	GW-7	GEOPROBE GROUND WATER SAMPLE LOCATION
♦	UST	POTENTIAL UNDERGROUND STORAGE TANK LOCATIONS

N

APPROXIMATE SCALE IN FEET

0 100 200 300

ecology and environment, inc.
International Specialists in the Environment

DESIGNED BY: ED MARTIN

CHECKED BY: SCOTT HAYES

DRAWN BY: ED MARTIN

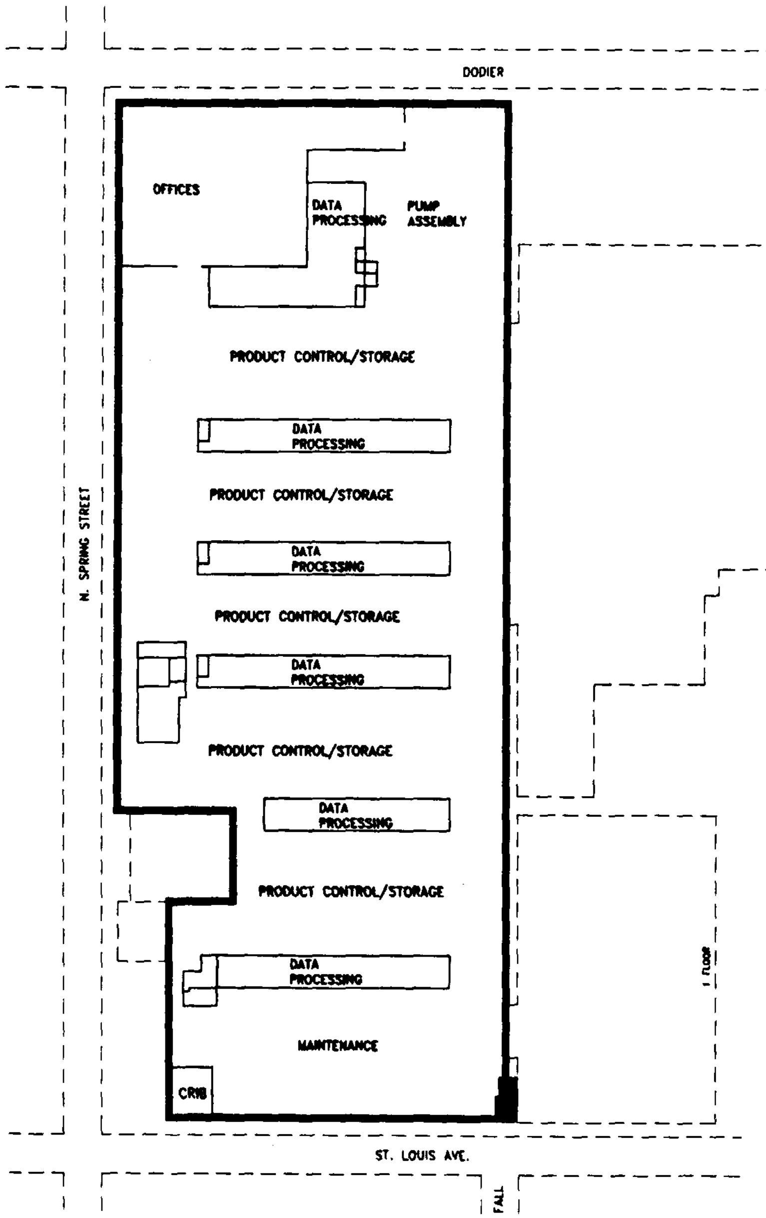
APPROVED BY: SCOTT HAYES

SAMPLE LOCATION
SECOND FLOOR

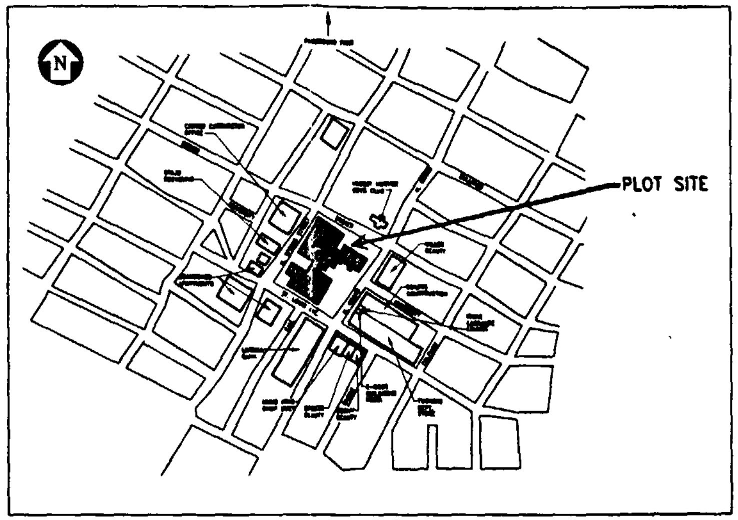
CARTER CARBURATOR
ST. LOUIS, MISSOURI

SCALE	DATE ISSUED	CAD FILE NO.	DRAWING NO.
NOTED	01-22-96	KJ7SE17.DWG	X OF X

KJ7108/PAN:882?CCSSXX/TDD: S07-9601-027/KJ7TH17.DWG/ 01-22-96/SEATTLE WA. ED MARTIN -AUTOCAD OPR



THIRD FLOOR



KEY PLAN

LEGEND

□	SP7	SUMP SAMPLE LOCATION
▲	PH-21	GEOPROBE SUBSURFACE SOIL SAMPLE LOCATION
●	MH-12	MANHOLE SEDIMENT SAMPLE LOCATION
★	GW-7	GEOPROBE GROUND WATER SAMPLE LOCATION
♦	UST	POTENTIAL UNDERGROUND STORAGE TANK LOCATIONS

APPROXIMATE SCALE IN FEET

0 100 200 300

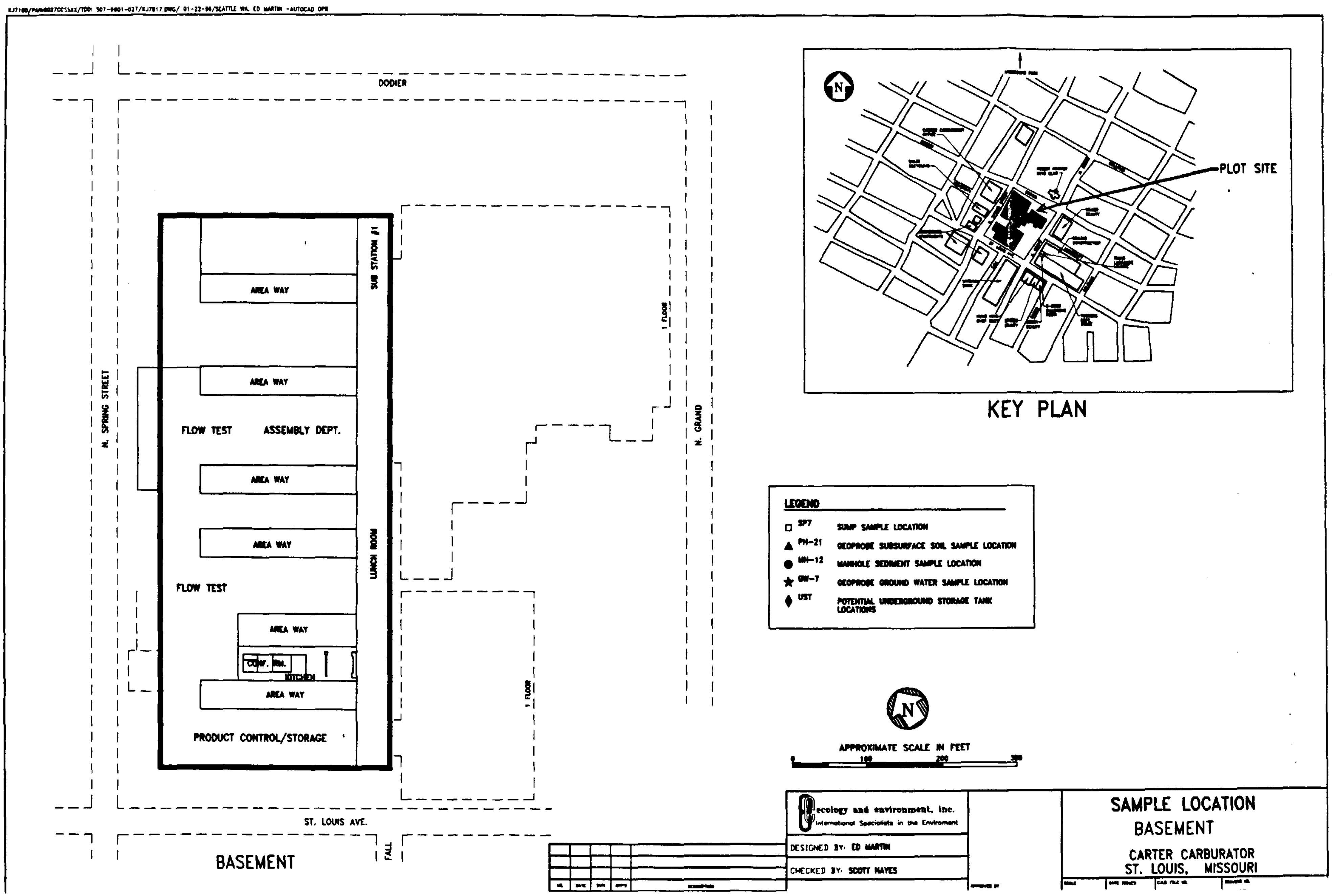
ecology and environment, inc.
International Specialists in the Environment

DESIGNED BY: ED MARTIN

CHECKED BY: SCOTT MAYES

SAMPLE LOCATION
THIRD FLOOR

CARTER CARBURATOR
ST. LOUIS, MISSOURI


DODIER
N. SPRING STREET
N. GRAND
ST. LOUIS AVE.
SUB STATION #1
AREA WAY
AREA WAY
FLOW TEST
ASSEMBLY DEPT.
AREA WAY
AREA WAY
FLOW TEST
LUNCH ROOM
AREA WAY
CONF. RM.
KITCHEN
AREA WAY
PRODUCT CONTROL/STORAGE
1 FLOOR
1 FLOOR
FALL
BASEMENT
PLOT SITE
KEY PLAN
LEGEND
SP7 SUMP SAMPLE LOCATION
PH-21 GEOPROBE SUBSURFACE SOIL SAMPLE LOCATION
MH-12 MANHOLE SEDIMENT SAMPLE LOCATION
GW-7 GEOPROBE GROUND WATER SAMPLE LOCATION
UST POTENTIAL UNDERGROUND STORAGE TANK LOCATIONS
N
APPROXIMATE SCALE IN FEET
0 100 200 300
ecology and environment, inc.
International Specialists in the Environment
DESIGNED BY: ED MARTIN
CHECKED BY: SCOTT HAYES
SAMPLE LOCATION
BASEMENT
CARTER CARBURATOR
ST. LOUIS, MISSOURI

APPENDIX F

PHOTOGRAPHIC RECORD

Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME:	Carter Carburetor Site
SITE LOCATION:	St. Louis, Missouri
JOB NUMBER:	KJ7100

Photo Number: 24

Subject: Sampling at probe hole #4

Photographer: Scott Hayes

Date/Time: 12/12/95--0745

Direction: West

Photo Number: 23

Subject: Sampling at probe hole #4

Photographer: Scott Hayes

Date/Time: 12/12/95--0745

Direction: East

Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME: Carter Carburetor Site
SITE LOCATION: St. Louis, Missouri
JOB NUMBER: KJ7100

Photo Number: 22

Subject: Geoprobe sampling at probe hole #4

Photographer: Scott Hayes

Date/Time: 12/12/95--0745

Direction: East

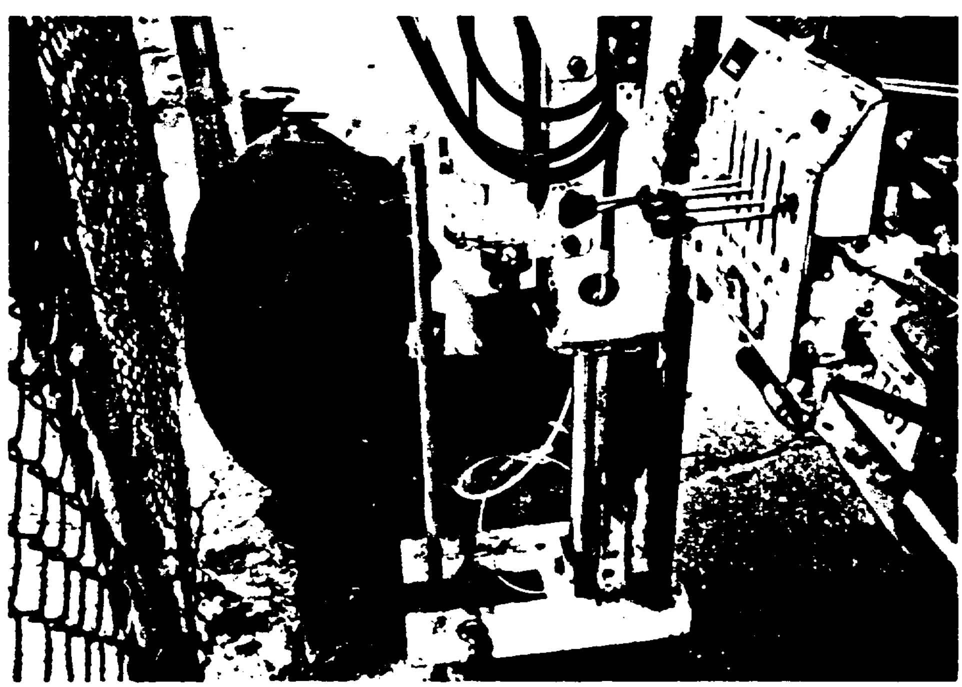
Photo Number: 21

Subject: Groundwater sampling at probe hole #4

Photographer: Steve Sanchez

Date/Time: 12/12/95--1005

Direction: West



Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME: Carter Carburetor Site
SITE LOCATION: St. Louis, Missouri
JOB NUMBER: KJ7100

Photo Number: 20

Subject: Groundwater sampling at probe hole #4

Photographer: Steve Sanchez

Date/Time: 12/12/95--1005

Direction: South

Photo Number: 19

Subject: Transformer substation at NE corner fo site

Photographer: Scott Hayes

Date/Time: 12/12/95--1100

Direction: Southeast

Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME:	Carter Carburetor Site
SITE LOCATION:	St. Louis, Missouri
JOB NUMBER:	KJ7100

Photo Number: 18

Subject: Residential Area East of Grand on Dodier

Photographer: Scott Hayes

Date/Time: 12/12/95--1100

Direction: East

Photo Number: 17

Subject: Exhaust fans on North Side of building

Photographer: Scott Hayes

Date/Time: 12/12/95--1100

Direction: South

Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME: Carter Carburetor Site
SITE LOCATION: St. Louis, Missouri
JOB NUMBER: KJ7100

Photo Number: 16

Subject: Drums in building

Photographer: Scott Hayes

Date/Time: 12/12/95--1315

Direction: West

Photo Number: 15

Subject: Sump #1

Photographer: Scott Hayes

Date/Time: 12/12/95--1315

Direction: North

Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME: Carter Carburetor Site
SITE LOCATION: St. Louis, Missouri
JOB NUMBER: KJ7100

Photo Number: 14

Subject: Sump #2

Photographer: Scott Hayes

Date/Time: 12/12/95--1315

Direction: North

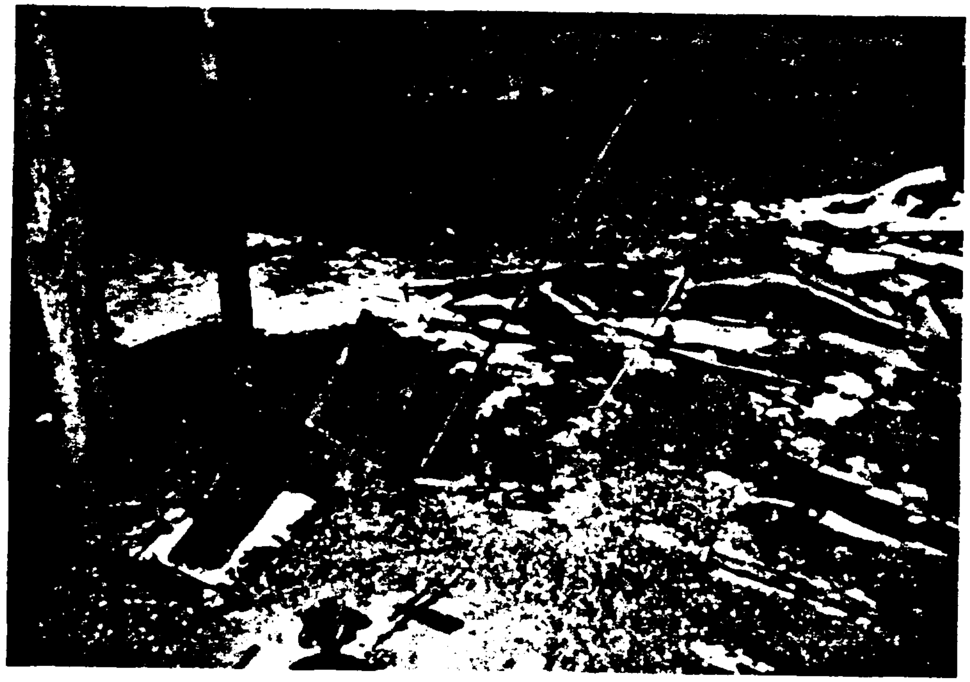


Photo Number: 13

Subject: Sump #3

Photographer: Scott Hayes

Date/Time: 12/12/95--1315

Direction: South

Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME:	Carter Carburetor Site
SITE LOCATION:	St. Louis, Missouri
JOB NUMBER:	KJ7100

Photo Number:	12
Subject:	Sump #4
Photographer:	Scott Hayes
Date/Time:	12/12/95--1315
Direction:	West

Photo Number:	11
Subject:	Sump #5
Photographer:	Scott Hayes
Date/Time:	12/12/95--1315
Direction:	South

Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME: Carter Carburetor Site
SITE LOCATION: St. Louis, Missouri
JOB NUMBER: KJ7100

Photo Number: 10

Subject: Man Hole #3

Photographer: Scott Hayes

Date/Time: 12/13/95

Direction: West

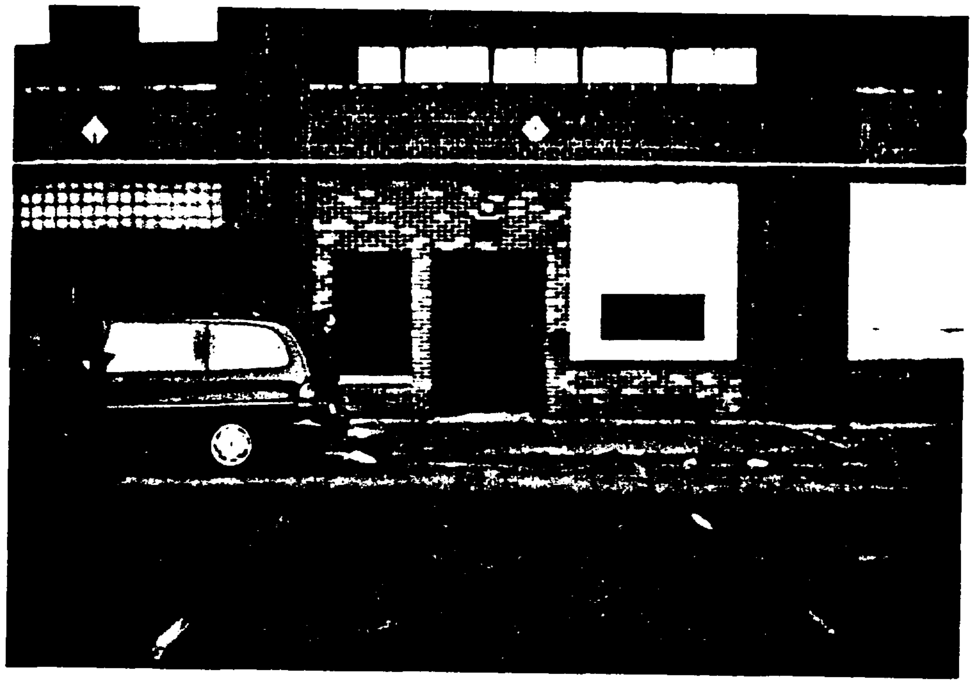


Photo Number: 9

Subject: Manhole #5

Photographer: Scott Hayes

Date/Time: 12/13/95

Direction: Southeast

Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME: Carter Carburetor Site
SITE LOCATION: St. Louis, Missouri
JOB NUMBER: KJ7100

Photo Number: 8

Subject: UST location on East Central side of building

Photographer: Scott Hayes

Date/Time: 12/13/95

Direction: West

Photo Number: 7

Subject: Same as #8

Photographer: Scott Hayes

Date/Time: 12/13/95

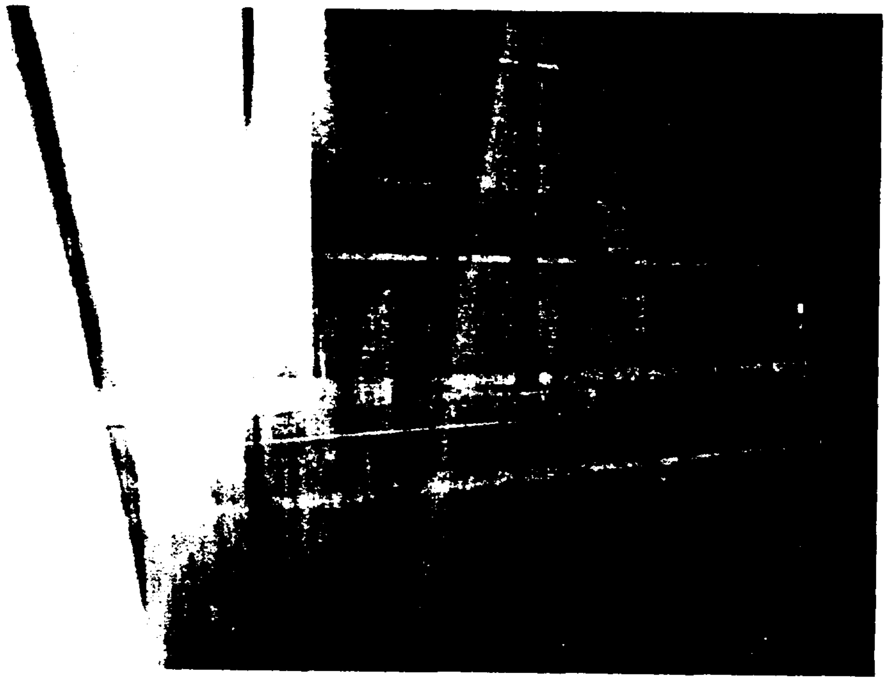
Direction: West

Ecology and Environment, Inc.

PHOTOGRAPHIC RECORD

SITE NAME:	Carter Carburetor Site
SITE LOCATION:	St. Louis, Missouri
JOB NUMBER:	KJ7100

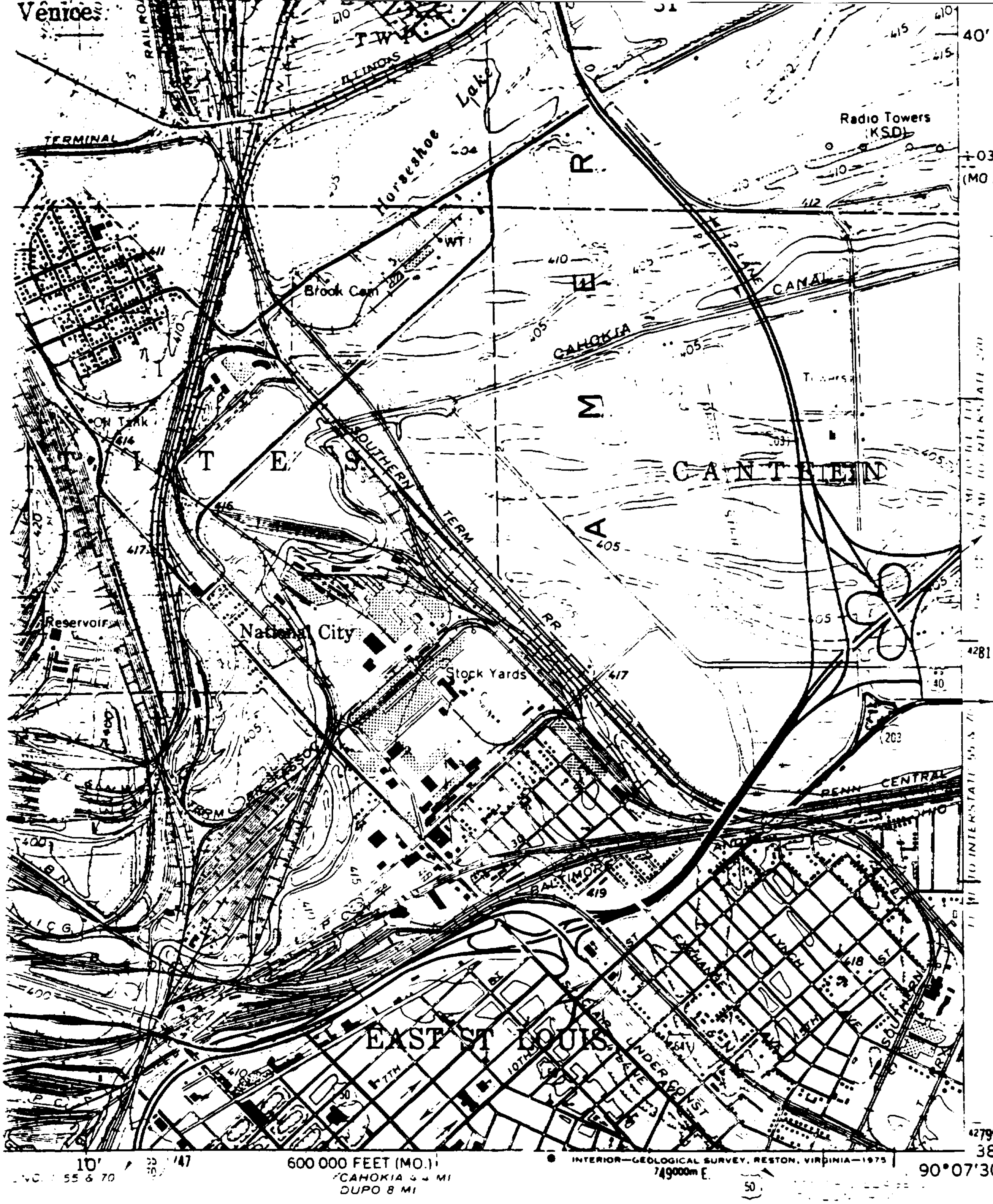
Photo Number:	6
Subject:	Man hole #7
Photographer:	Scott Hayes
Date/Time:	12/13/95
Direction:	North



APPENDIX G

SUPPORTING DOCUMENTATION/REFERENCES

Ref. 1



(FRENCH VILLAGE)
2961 II SE

MILE

ROAD CLASSIFICATION

Heavy-duty		Light-duty	
Medium-duty		Unimproved dirt	

Interstate Route   U. S. Route   State Route

ILLINOIS

QUADRANGLE LOCATION

2092

Revisions shown in purple compiled by the Geological Survey from aerial photographs taken 1968 and 1974. This information not field checked

Purple tint indicates extension of urban areas

GRANITE CITY, ILL.–MO.
N3837.5—W9007.5/7.5

1954

PHOTOREVISED 1968 AND 1974

AMS 2961 II NW—SERIES V863

Ref. 2

ecology and environment, inc.

CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913/432-9961

International Specialists in the Environment

MEMORANDUM

TO: Roy Crossland, EPA/DPO

FROM: Joseph Davis, E & E/TATM

THRU: Joe Chandler, E & E/TATL

DATE: June 30, 1994

SUBJECT: Site Assessment: Carter Carburetor Manufacturing Facility, 2800-2840 N. Spring Street, St. Louis, Missouri
TDD: T07-9403-0001
PAN: EMO1034SBA
EPA/OSC: Don Hamera

INTRODUCTION

The Ecology & Environment, Inc.(E & E), Technical Assistance Team (TAT) was tasked by the United States Environmental Protection Agency (EPA) Emergency Planning and Response (EP&R) Branch to conduct a site reconnaissance and assessment at the former Carter Carburetor manufacturing facility located at 2800 to 2840 North Spring Avenue in St. Louis, Missouri. Site activity included the assessment and documentation of site conditions, and the collection and management of air, wipe, and dust samples. A health and safety plan was produced prior to initiation of site work. Background information concerning this site was obtained from the EPA, the Missouri Department of Natural Resources (MDNR), the City of St. Louis, past and present property owners, and other individuals associated with the site. A summary report documenting all site activity was tasked after completion of field work.

BACKGROUND

The former Carter Carburetor facility manufactured equipment for gasoline and diesel-powered engines dating back to the 1930's. Aluminum and zinc were die cast and machined into carburetor components. Those components were treated with protective coatings and assembled on site. Materials related to this manufacturing process may have included polymers and resins for coatings and metal-treating solutions containing cyanide, lead, cadmium, chromium, and other metals. Materials associated with the manufacturing process included coolants, cutting fluids, lubrication and hydraulic oils, dielectric fluids from transformers, and possibly asbestos.

Carter Carburetor and Carter Automotive Products were subsidiaries of ACF Industries, Inc. ACF acquired the site property prior to the 1930's. In the mid-1980's, ACF closed the facility and dismantled most of the equipment. On April 26, 1985, the Land Reutilization Authority of St. Louis (LRA) accepted title of the property from ACF. LRA was informed by ACF that electrical equipment on site contained polychlorinated biphenyls (PCBs). On October 29, 1991, a large portion of the site was sold to George Moore, president of Carter Building Inc. (CBI). Currently, CBI owns the west half of the facility and the LRA owns the northeastern portion of the facility. The irregular shaped building does not have a southeast quadrant. CBI is currently leasing portions of the building to other businesses. The south end of the second floor is leased to a plastics company and the north end of the first floor is leased to a metal fabricating company. A garage in the east-central portion of the building is leased to Mac's Automotive Repair. A site sketch is presented as Attachment A.

On November 16, 1993, and January 6, 1994, under Technical Direction Document (TDD) T07-9310-0027B, TAT conducted limited sampling in areas that were known or suspected to be contaminated with PCBs. Eighteen samples consisting of three soil samples, 12 wipe samples, one water sample, and two waste oil samples were collected and analyzed for PCBs. Samples indicated PCB concentration as high as 180,000 mg/kg in solids found outside of the building and 410,000 μg/100 cm^2 on surfaces inside of the building. Sediment sampled from an interior floor drain indicated 4,800 mg/kg PCBs. All samples exceed cleanup levels established under the Toxic Substances Control Act (TSCA). The PCB Spill Cleanup Policy contained in 40 CFR 761 Subpart G applies to releases of materials containing PCBs at concentrations of 50ppm or greater which occurred after May 4, 1987. The date and concentration of materials released are unknown. While old spills require site specific evaluation, the PCB Spill Cleanup Policy as described in this study has been included as a general reference only. Two samples that were analyzed for total metals indicated the presence of lead, arsenic, and cadmium.

Areas within the CBI property that were sampled during the November 16, 1993, and January 6, 1994, site assessments include a vaulted pump room near the center of the building that contained pumps, old boilers, and other equipment. This room formerly housed electrical Substation # 1 and is a confirmed area of PCB contamination. During prior cleanup activity in this area, contractors removed PCB transformers and a PCB-contaminated concrete transformer pad. A floor drain near the northwest corner of the concrete removal area is also known from the previous study to be contaminated with PCBs. Based on the location of city sewers, it is thought that this drain is connected to a 12-inch sewer line flowing south along Spring Street. At the east wall of the warehouse area is an interior drive-through door leading to the LRA property. Prior investigations have indicated that a PCB oil spill occurred just beyond the doorway, below electrical Substation # 3, which is located on the roof of LRA property.

Areas within the LRA property that were sampled during the previous study include the area around and below the transformers at Substation # 3 located on the second floor roof of the LRA building where it abuts

CBI property. Prior studies have indicated that this substation has leaked PCB-contaminated fluid down the side of the wall onto the floor of LRA property. Another platform-mounted substation, Substation # 4, near the northeast corner of the LRA building, was also known to be contaminated with PCBs. A floor plan of the former Carter Carburetor facility is presented as Attachment B.

Some of the interior surfaces of the facility are contaminated by PCBs at levels above 10 $\mu g/100\ cm^2$ and may pose a health risk to personnel currently working at the facility. The PCBs may also migrate outside the facility through tracking by personnel and equipment as well as through the sewer system or stormwater runoff that may have become contaminated with PCBs. Based on this information, it was decided that further site characterization was necessary.

SITE ACTIVITY

TATM Joe Davis prepared a work plan specifying sampling events at the former Carter Carburetor facility. The primary objectives of the plan were to collect sufficient data to document the potential for PCB exposure to personnel currently working at the facility, and to collect data that would further delineate the extent of contamination within the building. The plan specified the collection of ambient air samples from heavy traffic areas in each of the facilities currently being utilized at the site. In addition to air samples, wipe and dust samples were to be randomly collected throughout the utilized and non-utilized portions of the facility.

On March 10, 1994, TAT performed decontamination and calibration of eight General Metal Works Modified High Volume PS-1 air samplers (PS-1 sampler) in preparation for the sampling event. Each high volume air sampler utilized a glass fiber filter (GFF) with a polyurethane foam (PUF) backup absorbent cartridge. All units were set to sample ambient air at a rate 200-240 L/minute as specified in EPA Method T04.

On March 15, 1994, TATMs Dave Kinroth, Ed Martin, and Joe Davis met with EPA On Scene Coordinator (OSC) Don Hamera to set up PS-1 air samplers. Two PS-1 samplers were collocated in the plastics shop, George Moore's work area, Mac's auto repair shop, and the metal fabrication shop. All PS-1 samplers were started between 0730 and 0840 hours on the morning of March 16, and were allowed to collect air samples through an 8-hour work shift at each location. Standard field documentation, including sample tags, field sheets, and chain-of-custody procedures, were followed. All air sample modules were placed in 32-ounce jars, packed on ice in a cooler, and hand delivered by the OSC to the EPA Region VII Laboratory in Kansas City, Kansas.

The following air samples were collected at these locations.

Sample #	Location
RZ3JJ001	Inside, near George Moore's office
RZ3JJ001Y	" " " " "

RZ3JJ002	Inside Mac's auto repair shop
RZ3JJ002Y	" " " " "
RZ3JJ003	Second Floor, plastics shop
RZ3JJ003Y	" " " "
RZ3JJ004	Rear of metal fabrication shop
RZ3JJ004Y	" " " " "

At each location, one of the collocated PS-1 samplers was equipped with a clean GFF/PUF cartridge. The other PS-1 sampler was equipped with a PUF cartridge spiked at the action level of 0.5 mg/m3 with 50 milligrams of Aroclor 1260 (sample # qualified with a "Y"). Aroclor 1260 was identified in previous studies as the most prevalent PCB contaminant on site. Because Aroclor 1260 does not have a documented action level, the action level for Aroclor 1254 (0.5mg/m^3) was used. For the purposes of spiking at the action level, a sample volume of 100 m^3 was assumed.

Table 1 summarizes spike recovery percentages at each location based on actual air volumes using the equation: <[concentration(mg/m^3) X volume(m^3)] / 50 mg> X 100.

TABLE 1

Sample #	Concentration	Air Volume	Recovery %
RZ3JJ001Y	0.460	100.9	92.8
RZ3JJ002Y	0.430	105.4	90.6
RZ3JJ003Y	0.410	107.3	88.0
RZ3JJ004Y	0.520	86.1	89.5

The maximum concentration of PCB detected in the ambient air samples was 0.00011 mg/m^3 of Aroclor 1242. This is below the documented NIOSH action level of 0.001 mg/m^3 and the OSHA action level of 1 mg/m^3 (skin).

Concurrent with the air sampling activities, TAT and the OSC randomly collected 50 wipe samples on floors and other surfaces throughout the site using 3-by 3-inch hexane-soaked Gauze pads. Twenty-two of the wipe samples were collected from surfaces in high traffic areas within the facilities currently being utilized. Twenty-eight other wipe samples were collected throughout the non-utilized portions of the site. In addition to the wipe samples, six dust samples and one water sample were collected at various points on site. One 55-gallon drum located in the north LRA parking lot was also sampled. The drum contained an unknown brown oily liquid.

Table 2 lists the locations of all other samples collected during the March 15-18 sampling event. The sample locations are further identified on the floor plans (Attachment B). All wipe samples were taken from four separate 25 square centimeter areas for a total of 100 cm^2 surface area using templates and cotton gauze pads saturated with hexane. The water sample was collected in an 80 ounce amber glass container. All solids and waste oil samples were collected and placed in 8 ounce glass jars. Standard field documentation, including sample tags, field sheets, and chain-of-custody procedures were followed. All samples were packed on ice in a cooler and hand delivered by the OSC to the EPA Region VII Laboratory in Kansas City, Kansas.

TABLE 2
MARCH 15 -18

Sample #	Media	Location	Analysis
RZ3JJ011	wipe	Wood crates, SE corner of Wilco Plastics	
RZ3JJ012	wipe	Floor, south corridor of Wilco Plastics	
RZ3JJ013	wipe	Floor, west corridor of Wilco Plastics	
RZ3JJ014	wipe	North wall of Wilco Plastics (plastics shop)	
RZ3JJ015	wipe	Overhead lights, center of plastics shop	
RZ3JJ016	wipe	Floor, east corridor of plastics shop	
RZ3JJ017	wipe	Desk surfaces, south corridor of plastics shop	
RZ3JJ018	wipe	Floor, SW corner of Mac's Auto Shop	
RZ3JJ019	wipe	Floor, east room of Mac's Auto Shop	
RZ3JJ020	wipe	Wall, east room of Mac's Auto Shop	
RZ3JJ021	wipe	Shelves & desk top, Mac's Auto Shop	
RZ3JJ022	wipe	Floor, near overhead door to George Moore's office area of the warehouse	
RZ3JJ022D	wipe	Duplicate of RZ3JJ022	
RZ3JJ023	wipe	Main driveway corridor(E-W) inside of warehouse near George Moore's office	
RZ3JJO24	wipe	Driveway corridor(N-S) inside of warehouse near George Moore's office	
RZ3JJO25	wipe	Floor, inside George Moore's office	
RZ3JJO26	wipe	1st floor inside tool cage, SW corner of CBI building	
RZ3JJO27	wipe	West storage room, just north of tool cage in the south portion of 1st floor CBI building	
RZ3JJO28	wipe	N-S corridor on east side of 1st floor CBI	
RZ3JJO29	wipe	N-S corridor on west side of 1st floor CBI	
RZ3JJO30	wipe	Southern most E-W corridor of 1st floor CBI	
RZ3JJO31	wipe	North end of N-S corridor, east side, 2nd floor CBI	
RZ3JJO32	wipe	South end of N-S corridor, east side, 2nd floor CBI	
RZ3JJO33	wipe	South concourse area, west side, 2nd floor CBI	
RZ3JJO34	wipe	North concourse area, west side, 2nd floor CBI	
RZ3JJO35	wipe	North end of N-S corridor, east side, 3rd floor CBI	
RZ3JJO36	wipe	South end of N-S corridor, east side, 3rd floor CBI	
RZ3JJO37	wipe	South concourse area, west side, 3rd floor CBI	
RZ3JJO38	wipe	North concourse area, west side, 3rd floor CBI	
RZ3JJO39	wipe	South rooms, 4th floor CBI	
RZ3JJO40	wipe	Main room, east side of 4th floor CBI	
RZ3JJO41	wipe	North end locker room area, 4th floor CBI	
RZ3JJO42	soil	Dust from Floor of plastics shop	
RZ3JJO43	soil	Dust from 1st floor of CBI	
RZ3JJO44	wipe	Floor, west-central 4th floor CBI	
RZ3JJO45	wipe	Shelves and desk, inside plastics shop office	
RZ3JJO46	soil	Dust from 2nd floor of CBI	
RZ3JJO47	wipe	Stairway room adjacent to the metal fab shop and the north end of the building	
RZ3JJO48	wipe	N-S corridor, east end, inside of metal fab shop	
RZ3JJO49	wipe	Central floor area inside of metal fab shop	
RZ3JJO50	wipe	E-W corridor, south end, inside of metal shop	
RZ3JJO51	wipe	Office area of metal fab shop	

RZ3JJ052 wipe E-W corridor in central CBI warehouse near sliding door leading into metal fab shop, north of pump room

RZ3JJ053 wipe N-S corridor in north-central CBI warehouse, north of pump room

RZ3JJ054 wipe N-S corridor in north-east end of CBI warehouse

RZ3JJ055 soil Dust, north-central end of CBI warehouse

RZ3JJ056 wipe Field Blank

RZ3JJ057 wipe Coffee room & back office floor, metal fab shop

RZ3JJ058 wipe Floor inside metal fab shop near drive thru door leading into CBI warehouse

RZ3JJ059 wipe Floor under stairs east of pump room

RZ3JJ060 wipe South-central open area, 1st floor LRA building

RZ3JJ061 wipe Center of LRA building just south of Die Cast building, 1st floor

RZ3JJ062 wipe Stained area near 32-gallon transformer on floor at S-E corner of north die cast building. (The transformer is lying on its side in the corner of the large room. A 20-by 20-foot stained area appears to be oil drained from the transformer)

RZ3JJ063 soil Solids collected from machine mounting pads in south Die Cast Room (material appears to be historic accumulation of oily residue related to the manufacturing process)

RZ3JJ064 wipe Field blank

RZ3JJ065 Wipe Stained area, central-west in north Die Cast Room (oily stain about 20 feet in diameter)

RZ3JJ066 water Tank sump, central north die cast room

RZ3JJ067 soil North LRA parking lot in pothole down grade from electrical sub-station #4

RZ3JJ068 waste From 55-gallon drum, LRA north parking lot. Drum was labeled #64

RZ3JJ069 wipe on walkway of loading dock at south side of CBI

FOLLOWUP ACTIVITIES

Table 3 presents an overview of the individual PCB levels detected in the samples that exceed the Toxic Substances Control Act (TSCA) cleanup levels of 10 μg/100 cm^2 for high-contact solid surfaces and low-contact, indoor, impervious solid surfaces for wipe samples and 10 milligrams per kilogram (mg/kg) for soil samples. Table 3 presents individual PCB concentrations only, while total PCB concentrations at other locations exceeded 10μg/100cm^2. The complete Analysis Request Report for the 3-day sampling event is presented as Attachment C.

TABLE 3

Sample #	AROCLOR 1248	AROCLOR 1254	AROCLOR 1260
RZ3JJ022	--	--	17 μg/100cm^2
RZ3JJ022D	--	--	24 μg/100cm^2
RZ3JJ023	14 μg/100cm^2	20 μg/100cm^2	17 μg/100cm^2
RZ3JJ024	--	14 μg/100cm^2	--
RZ3JJ026	20 μg/100cm^2	47 μg/100cm^2	10 μg/100cm^2
RZ3JJ027	--	10 μg/100cm^2	--
RZ3JJ028	64 μg/100cm^2	53 μg/100cm^2	--
RZ3JJ029	39 μg/100cm^2	69 μg/100cm^2	14 μg/100cm^2
RZ3JJ030	32 μg/100cm^2	46 μg/100cm^2	11 μg/100cm^2
RZ3JJ031	--	30 μg/100cm^2	16 μg/100cm^2
RZ3JJ033	--	25 μg/100cm^2	--
RZ3JJ035	--	12 μg/100cm^2	--
RZ3JJ036	--	21 μg/100cm^2	--
RZ3JJ037	40 μg/100cm^2	34 μg/100cm^2	28 μg/100cm^2
RZ3JJ038	27 μg/100cm^2	99 μg/100cm^2	15 μg/100cm^2
RZ3JJ043	78 mg/kg	--	--
RZ3JJ047	333 μg/100cm^2	490 μg/100cm^2	64 μg/100cm^2
RZ3JJ048	10 μg/100cm^2	--	--
RZ3JJ049	--	15 μg/100cm^2	--
RZ3JJ050	10 μg/100cm^2	13 μg/100cm^2	--
RZ3JJ052	11 μg/100cm^2	18 μg/100cm^2	--
RZ3JJ053	10 μg/100cm^2	13 μg/100cm^2	--
RZ3JJ054	370 μg/100cm^2	470 μg/100cm^2	--
RZ3JJ055	1,500 mg/kg	--	--
RZ3JJ058	31 μg/100cm^2	27 μg/100cm^2	--
RZ3JJ059	82 μg/100cm^2	110 μg/100cm^2	250 μg/100cm^2
RZ3JJ060	--	15 μg/100cm^2	10 μg/100cm^2
RZ3JJ061	52 μg/100cm^2	60 μg/100cm^2	23 μg/100cm^2
RZ3JJ062	--	16,000 μg/100cm^2	120,000 μg/100cm^2
RZ3JJ063	3,300 mg/kg	--	--
RZ3JJ065	24,000 μg/100cm^2	3,400 μg/100cm^2	1,000 μg/100cm^2
RZ3JJ067	--	--	1,600 mg/kg
RZ3JJ068	--	--	55 mg/kg
RZ3JJ069	71 μg/100cm^2	210 μg/100cm^2	84 μg/100cm^2

Soil samples RZ3JJ042, RZ3JJ043, RZ3JJ046, and RZ3JJ055, which were also analyzed for total metals, indicated total lead levels of 2,070 mg/kg, 1,170 mg/kg, 2,170 mg/kg, and 3,840 mg/kg, respectively. OSWER directive 9355.4-02 has established an interim action level of 500 to 1,000 mg/kg total lead in soil. EPA Region VII policy has established an action level of 500 ppm total lead in soil in residential areas and 1,000 mg/kg in industrial settings. Arsenic and cadmium were also detected at levels as high as 21.0 mg/kg and 40.6 mg/kg, respectively.

SUMMARY

TAT was tasked by Region VII EPA/EP&R to conduct site reconnaissance and assessment at the former Carter Carburetor manufacturing facility located at 2800 to 2840 North Spring Avenue St. Louis, Missouri. Sixty-two samples consisting of four ambient air samples, fifty wipe samples, six soil samples, one water sample, and one waste oil sample were collected and analyzed for PCBs. Samples indicated PCB levels as high as 58 ug/100cm^2 on surfaces within actively utilized areas of the facility and 3,300 mg/kg in solids found on the floors and 136,000 µg/100 cm^2 on surfaces within the non-utilized portions of the site. The maximum concentration of PCB detected in ambient air samples was 0.00011 mg/m^3 of Aroclor 1242. This is below the documented NIOSH level of 0.001 mg/m^3 and the OSHA action level of 1 mg/m^3 (skin). Three of the soil samples that were analyzed for total metals indicated levels of lead, arsenic, and cadmium as high as 3,840 mg/kg, 21.0 mg/kg and 40.6 mg/kg, respectively.

ATTACHMENTS

A: Site Sketch
B: Former Carter Carburetor Floor Plans, sample locations
C: Data Transmittals for Sampling Events
D: Photographic Record

ATTACHMENT C

ANALYSIS REQUEST REPORT — VALIDATED DATA

FOR ACTIVITY: RZ3JJ

HAMERA, DON — 04/06/94 10:03:50 — ALL REAL SAMPLES AND FIELD Q.C.

* FINAL REPORT

FY: 94 ACTIVITY: RZ3JJ DESCRIPTION: CARTER CARBURETOR . LOCATION: ST. LOUIS MISSOURI

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: L33

LABO DUE DATE IS 4/20/94. REPORT DUE DATE IS 5/ 2/94.

INSPECTION DATE: 3/18/94 ALL SAMPLES RECEIVED DATE: 03/21/94

ALL DATA APPROVED BY LABO DATE: 04/01/94 FINAL REPORT TRANSMITTED DATE: 04/06/94

EXPECTED LABO TURNAROUND TIME IS 30 DAYS EXPECTED REPORT TURNAROUND TIME IS 45 DAYS

ACTUAL LABO TURNAROUND TIME IS 11 DAYS ACTUAL REPORT TURNAROUND TIME IS 19 DAYS

SITE CODE: JJ SITE: CARTER CARBURETOR SITE

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		A	GEORGE MOORES OFFICE AREA-1ST FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	08:15	03/16/94	16:10
001	Y	A	GEORGE MOORES OFFICE AREA	1	ST. LOUIS	MISSOURI				03/16/94	08:17	03/16/94	16:11
002		A	MACS AUTO SHOP	1	ST. LOUIS	MISSOURI				03/16/94	08:42	03/16/94	16:40
002	Y	A	MACS AUTO SHOP	1	ST. LOUIS	MISSOURI				03/16/94	08:43	03/16/94	16:41
003		A	WILCO PLASTICS SHOP	1	ST. LOUIS	MISSOURI				03/16/94	07:40	03/16/94	15:57
003	Y	A	WILCO PLASTICS SHOP	1	ST. LOUIS	MISSOURI				03/16/94	07:38	03/16/94	15:58
004		A	METAL FABRICATION SHOP	1	ST. LOUIS	MISSOURI				03/16/94	08:01	03/16/94	16:17
004	Y	A	METAL FABRICATION SHOP	1	ST. LOUIS	MISSOURI				03/16/94	07:59	03/16/94	16:20
010	F	A	FIELD BLANK	1	ST. LOUIS	MISSOURI				03/16/94	00:00	/ /	:
011		H	SE CORNER WILCO PLASTICS-2ND FLOOR	1	ST. LOUIS	MISSOURI				03/15/94	14:55	/ /	:
012		H	SOUTH CORRIDOR-PLASTICS SHOP-2ND FLR.	1	ST. LOUIS	MISSOURI				03/15/94	15:12	/ /	:
013		H	WEST CORRIDOR-PLASTICS SHOP-FLOOR	1	ST. LOUIS	MISSOURI				03/15/94	15:18	/ /	:
014		H	NORTH WALL - PLASTICS SHOP	1	ST. LOUIS	MISSOURI				03/15/94	15:21	/ /	:
015		H	CENTER-PLASTICS SHOP/OVERHEAD LIGHTS	1	ST. LOUIS	MISSOURI				03/15/94	15:22	/ /	:
016		H	EAST CORRIDOR-PLASTICS SHOP-FLOOR	1	ST. LOUIS	MISSOURI				03/15/94	15:24	/ /	:
017		H	DESK SURFACES-SOUTH CORRIDOR	1	ST. LOUIS	MISSOURI				03/15/94	15:25	/ /	:
018		H	FLOOR-SW CORNER-MARCS AUTO SHOP	1	ST. LOUIS	MISSOURI				03/16/94	08:47	/ /	:
019		H	EAST RM.-FLOOR-MACS AUTO SHOP	1	ST. LOUIS	MISSOURI				03/16/94	08:49	/ /	:
020		H	EAST RM. WALLS-MACS AUTO SHOP	1	ST. LOUIS	MISSOURI				03/16/94	08:50	/ /	:
021		H	SHELVES/DESK TOP SURF.-MACS AUTO SHOP	1	ST. LOUIS	MISSOURI				03/16/94	08:51	/ /	:
022		H	GEORGE MOORES OFFICE/WAREHOUSE-FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	09:25	/ /	:
022	D	H	GEORGE MOORES OFFICE-DUPLICATE OF 022	1	ST. LOUIS	MISSOURI				03/16/94	09:25	/ /	:
023		H	MAIN DRIVEWAY CORRIDOR-BLDG.	1	ST. LOUIS	MISSOURI				03/16/94	09:28	/ /	:

VALIDATED DATA

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/STORET LOC NO	SECT	LAYER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
024		H	DRIVEWAY AREA N-2-WAREHOUSE RM.	1	ST. LOUIS	MISSOURI				03/16/94	09:30	/ /	:
025		H	GEORGE MOORES OFFICE-INSIDE FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	09:35	/ /	:
026		H	SW CORNER CBI PROPERTY-1ST FLR.	1	ST. LOUIS	MISSOURI				03/16/94	09:40	/ /	:
027		H	WEST STORAGE AREA-CBI BLDG.-1ST FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	09:45	/ /	:
028		H	EAST CORRIDOR-1ST FLR. CBI WAREHOUSE	1	ST. LOUIS	MISSOURI				03/16/94	09:50	/ /	:
029		H	WEST CORRIDOR-1ST FLR. CBI WAREHOUSE	1	ST. LOUIS	MISSOURI				03/16/94	10:00	/ /	:
030		H	SOUTH.MOST CORRIDOR-CBI BLDG.-1ST FLR.	1	ST. LOUIS	MISSOURI				03/16/94	10:10	/ /	:
031		H	NORTH END CORRIDOR-2ND FLR.-CBI WARE.	1	ST. LOUIS	MISSOURI				03/16/94	10:55	/ /	:
032		H	SOUTH END CORRIDOR-2ND FLR.-EAST	1	ST. LOUIS	MISSOURI				03/16/94	11:05	/ /	:
033		H	SOUTH END CONCURSE AREA-WND FLR.WEST	1	ST. LOUIS	MISSOURI				03/16/94	10:55	/ /	:
034		H	NORTH CONCOURSE AREA-2ND FLR.WEST CBI	1	ST. LOUIS	MISSOURI				03/16/94	11:05	/ /	:
035		H	3RD FLOOR CBI CORRIDOR NORTH	1	ST. LOUIS	MISSOURI				03/16/94	11:15	/ /	:
036		H	3RD FLOOR EAST CORRIDOR CBI-SOUTH	1	ST. LOUIS	MISSOURI				03/16/94	11:20	/ /	:
037		H	SOUTH CONCOURSE AREA-3RD FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	11:15	/ /	:
038		H	NORTH CONCOURSE AREA-3RD FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	11:20	/ /	:
039		H	4TF FLOOR CBI-SOUTH ROOMS-FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	11:30	/ /	:
040		H	4TH FLOOR(EAST)MAIN ROOM FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	11:40	/ /	:
041		H	4TH FLOOR NORTH END LOCKER ROOM AREA	1	ST. LOUIS	MISSOURI				03/16/94	11:30	/ /	:
042		S	WILCO PLASTICS SHOP-DUST FROM FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	09:04	/ /	:
043		S	1ST FLOOR-CBI BUILDING WAREHOUSE	1	ST. LOUIS	MISSOURI				03/16/94	10:30	/ /	:
044		H	4TH FLOOR CBI BLDG.WEST CENTRAL (FLR.)	1	ST. LOUIS	MISSOURI				03/16/94	11:40	/ /	:
045		H	INSIDE OFFICE-PLASTICS SHOP-SOUTH END	1	ST. LOUIS	MISSOURI				03/16/94	14:00	/ /	:
046		S	2ND FLR.-CBI WAREHOUSE AREA	1	ST. LOUIS	MISSOURI				03/16/94	13:43	/ /	:
047		H	METAL FABRICATION AREA-STAIRWAY RM.	1	ST. LOUIS	MISSOURI				03/16/94	14:37	/ /	:
048		H	METALS FABRICATOR AREA-EAST CORRIDOR	1	ST. LOUIS	MISSOURI				03/16/94	14:40	/ /	:
049		H	METAL FABRICATION AREA-CENTRAL CORR.	1	ST. LOUIS	MISSOURI				03/16/94	14:43	/ /	:
050		H	METAL FABRICATION AREA-WARE/PROD.AREA	1	ST. LOUIS	MISSOURI				03/16/94	14:45	/ /	:
051		H	OFFICE AREA-METAL FABRICATION SHOP	1	ST. LOUIS	MISSOURI				03/16/94	14:50	/ /	:
052		H	NORTH END-CENTRAL CBI WAREHOUSE	1	ST. LOUIS	MISSOURI				03/16/94	14:55	/ /	:
053		H	CENTRAL CORRIDOR-N.END 1ST FLR. CBI	1	ST. LOUIS	MISSOURI				03/16/94	15:00	/ /	:
054		H	NE END-CBI WAREHOUSE BLDG.-EAST CORR.	1	ST. LOUIS	MISSOURI				03/16/94	15:05	/ /	:
055		S	1ST FLR.-N.END CBI WAREHOUSE	1	ST. LOUIS	MISSOURI				03/16/94	15:10	/ /	:
056	F	H	FIELD BLANK WIPE SAMPLE	1	ST. LOUIS	MISSOURI				03/16/94	15:10	/ /	:
057		H	COFFEE ROOM & BACK OFFICE FLOOR	1	ST. LOUIS	MISSOURI				03/16/94	15:15	/ /	:
058		H	FLOOR NEAR DOORWAY	1	ST. LOUIS	MISSOURI				03/17/94	10:04	/ /	:
059		H	CBI PROPERTY STAINED AREA-FLOOR	1	ST. LOUIS	MISSOURI				03/17/94	10:48	/ /	:
060		H	SOUTH END-OPEN AREA LRA PROPERTY BLDG.	1	ST. LOUIS	MISSOURI				03/17/94	13:23	/ /	:
061		H	CENTER LRA BLDG.	1	ST. LOUIS	MISSOURI				03/16/94	13:25	/ /	:
062		H	STAINED AREA-32ND TRANSFORMER FLR.	1	ST. LOUIS	MISSOURI				03/17/94	13:37	/ /	:
063		S	SOUTH DIE CAST AREA LRA PROPERTY	1	ST. LOUIS	MISSOURI				03/17/94	13:30	/ /	:
064	F	H	FIELD BLANK	1	ST. LOUIS	MISSOURI				03/18/94	15:00	/ /	:
065		H	WIPE SAMPLE	1	ST. LOUIS	MISSOURI				03/18/94	09:56	/ /	:
066		W	PCB WATER SAMPLE	1	ST. LOUIS	MISSOURI				03/18/94	10:25	/ /	:
067		S	LRA PROPERTY-NORTH PARKING LOT	1	ST. LOUIS	MISSOURI				03/18/94	08:50	/ /	:
068		H	LRA NORTH LOT-OUTSIDE N.END OF BLDG.	1	ST. LOUIS	MISSOURI				03/18/94	09:18	/ /	:
069		H	WIPE SAMPLE	1	ST. LOUIS	MISSOURI				03/18/94	09:56	03/18/94	09:56

EXPLANATION OF CODES AND INFORMATION ON ANALYSIS REQUEST DETAIL REPORT

SAMPLE INFORMATION:

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER (A 3-DIGIT NUMBER WHICH IN COMBINATION WITH THE ACTIVITY NUMBER AND QCC, PROVIDES AN UNIQUE NUMBER FOR EACH SAMPLE FOR IDENTIFICATION PURPOSES)

QCC = QUALITY CONTROL CODE (A ONE-LETTER CODE USED TO DESIGNATE SPECIFIC QC SAMPLES. THIS FIELD WILL BE BLANK FOR ALL NON-QC OR ACTUAL SAMPLES):

- B = CAL INCREASED CONCENTRATION FOR A LAB SPIKED DUP SAMPLE
- D = MEASURED VALUE FOR FIELD DUPLICATE SAMPLE
- F = MEASURED VALUE FOR FIELD BLANK
- G = MEASURED VALUE FOR METHOD STANDARD
- H = TRUE VALUE FOR METHOD STANDARD
- K = CAL INCREASED CONCENTRATION FOR FIELD SPIKED DUP SAMPLE
- L = MEASURED VALUE FOR A LAB DUPLICATE SAMPLE
- M = MEASURED VALUE FOR LAB BLANK
- N = MEASURED CONCENTRATION OF FIELD SPIKED DUPLICATE
- P = MEASURED VALUE FOR PERFORMANCE STANDARD
- R = CAL INCREASED CONCENTRATION RESULTING FROM LAB SPIKE
- S = MEASURED CONCENTRATION OF LAB SPIKED SAMPLE
- T = TRUE VALUE OF PERFORMANCE STANDARD
- W = MEASURED CONCENTRATION OF LAB SPIKED DUPLICATE
- Y = MEASURED CONCENTRATION OF FIELD SPIKED SAMPLE
- Z = CAL INCREASED CONCENTRATION RESULTING FROM FIELD SPIKE
- 1 = MEASURED VALUE OF FIRST SPIKED REPLICATE
- 2 = MEASURED VALUE OF SECOND SPIKED REPLICATE
- 3 = MEASURED VALUE OF THIRD SPIKED REPLICATE
- 4 = MEASURED VALUE OF FOURTH SPIKED REPLICATE
- 5 = MEASURED VALUE OF FIFTH SPIKED REPLICATE
- 6 = MEASURED VALUE OF SIXTH SPIKED REPLICATE
- 7 = MEASURED VALUE OF SEVENTH SPIKED REPLICATE

M = MEDIA CODE (A ONE-LETTER CODE DESIGNATING THE MEDIA OF THE SAMPLE):

- A = AIR   H = HAZARDOUS WASTE/OTHER
- S = SOLID (SOIL, SEDIMENT, SLUDGE)
- T = TISSUE (PLANT & ANIMAL)
- W = WATER (GROUND WATER, SURFACE WATER, WASTE WATER, DRINKING WATER)

DESCRIPTION = A SHORT DESCRIPTION OF THE LOCATION WHERE SAMPLE WAS COLLECTED

AIRS/STORET LOC. NO. = THE SPECIFIC LOCATION ID NUMBER OF EITHER OF THESE NATIONAL DATABASE SYSTEMS, AS APPROPRIATE

DATE/TIME INFORMATION = SPECIFIC INFORMATION REGARDING WHEN THE SAMPLE WAS COLLECTED

- BEG. DATE = DATE SAMPLING WAS STARTED
- BEG. TIME = TIME SAMPLING WAS STARTED
- END DATE = DATE SAMPLING WAS COMPLETED
- END TIME = TIME SAMPLING WAS COMPLETED

NOTE: A GRAB SAMPLE WILL CONTAIN ONLY BEG. DATE/TIME
A TIMED COMPOSITE SAMPLE WILL CONTAIN BOTH BEG AND END DATE/TIME TO DESIGNATE DURATION OF SAMPLE COLLECTION

OTHER CODES

- V = VALIDATED

ANALYTICAL RESULTS/MEASUREMENTS INFORMATION:

COMPOUND = MGP (MEDIA-GROUP-PARAMETER) CODE AND NAME OF THE MEASURED CONSTITUENT OR CHARACTERISTIC OF EACH SAMPLE

UNITS = SPECIFIC UNITS IN WHICH RESULTS ARE REPORTED:

- C = CENTIGRADE (CELSIUS) DEGREES
- CFS = CUBIC FEET PER SECOND
- GPM = GALLONS PER MINUTE
- IN = INCHES
- I.D. = SPECIES IDENTIFICATION
- KG = KILOGRAM
- L = LITER
- LB = POUNDS
- MG = MILLIGRAMS (1 X 10-3 GRAMS)
- MGD = MILLION GALLONS PER DAY
- MPH = MILES PER HOUR
- MV = MILLIVOLT
- M/F = MALE/FEMALE
- M2 = SQUARE METER
- M3 = CUBIC METER
- NA = NOT APPLICABLE
- NG = NANOGRAMS (1 X 10-9 GRAMS)
- NTU = NEPHELOMETRIC TURBIDITY UNITS
- PC/L = PICO (1 X 10-12) CURRIES PER LITER
- PG = PICOGRAMS (1 X 10-12 GRAMS)
- P/CM2 = PICOGRAMS PER SQUARE CENTIMETER
- SCM = STANDARD CUBIC METER (1 ATM, 25 C)
- SQ FT = SQUARE FEET
- SU = STANDARD UNITS (PH)
- UG = MICROGRAMS (1 X 10-6 GRAMS)
- UMHOS = MICROMHOS/CM (CONDUCTIVITY UNITS)
- U/CC2 = MICROGRAMS PER 100 SQUARE CENTIMETERS
- U/CM2 = MICROGRAMS PER SQUARE CENTIMETER
- 1000G = 1000 GALLONS
- +/- = POSITIVE/NEGATIVE
- # = NUMBER

DATA QUALIFIERS = SPECIFIC CODES USED IN CONJUNCTION WITH DATA VALUES TO PROVIDE ADDITIONAL INFORMATION ON THE REPORTED RESULTS, OR USED TO EXPLAIN THE ABSENCE OF A SPECIFIC VALUE:

- BLANK = IF FIELD IS BLANK, NO REMARKS OR QUALIFIERS ARE PERTINENT. FOR FINAL REPORTED DATA, THIS MEANS THAT THE VALUES HAVE BEEN REVIEWED AND FOUND TO BE ACCEPTABLE FOR USE.
- I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
- J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES
- K = ACTUAL VALUE OF SAMPLE IS < VALUE REPORTED
- L = ACTUAL VALUE OF SAMPLE IS > VALUE REPORTED
- M = DETECTED BUT BELOW THE LEVEL OF REPORTED VALUE FOR ACCURATE QUANTIFICATION
- O = PARAMETER NOT ANALYZED
- U = ACTUAL VALUE OF SAMPLE IS < THE MEASUREMENT DETECTION LIMIT (REPORTED VALUE)

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 4-RZ3JJ   VALIDATED DATA

COMPOUND	UNITS	001		001 Y	002		002 Y	003	
AP01 PCB-AROCLOR 1016, GFF/PUF	UG/M3	0.0013	U		0.0013	U		0.0013	U
AP02 PCB-AROCLOR 1221, GFF/PUF	UG/M3	0.0025	U		0.0025	U		0.0025	U
AP03 PCB-AROCLOR 1232, GFF/PUF	UG/M3	0.0025	U		0.0025	U		0.0025	U
AP04 PCB-AROCLOR 1242, GFF/PUF	UG/M3	0.052			0.018			0.11	
AP05 PCB-AROCLOR 1248, GFF/PUF	UG/M3	0.0013	U		0.0013	U		0.0013	U
AP06 PCB-AROCLOR 1254, GFF/PUF	UG/M3	0.0013	U		0.0013	U		0.0013	U
AP07 PCB-AROCLOR 1260, GFF/PUF	UG/M3	0.0013	U	460	0.0013	U	430	0.0013	U
ZZ01 SAMPLE NUMBER	NA	001		001	002		002	003	
ZZ02 ACTIVITY CODE	NA	RZ3JJ		RZ3JJ	RZ3JJ		RZ3JJ	RZ3JJ	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	003 Y	004	004 Y	010 F	011
AP01 PCB-AROCLOR 1016, GFF/PUF	UG/M3		0.0013 U		0.0013 U	
AP02 PCB-AROCLOR 1221, GFF/PUF	UG/M3		0.0025 U		0.0025 U	
AP03 PCB-AROCLOR 1232, GFF/PUF	UG/M3		0.0025 U		0.0025 U	
AP04 PCB-AROCLOR 1242, GFF/PUF	UG/M3		0.0013 U		0.0013 U	
AP05 PCB-AROCLOR 1248, GFF/PUF	UG/M3		0.060		0.0013 U	
AP06 PCB-AROCLOR 1254, GFF/PUF	UG/M3		0.0013 U		0.0013 U	
AP07 PCB-AROCLOR 1260, GFF/PUF	UG/M3	410	0.0013 U	520	0.0013 U	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2					0.0040 U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2					0.0030 U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2					0.0010 U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2					0.0040 U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2					0.0040 U
HC16 PCB - AROCLOR 1254, WIPE	UGCM2					0.0040 U
HC17 PCB - AROCLOR 1260, WIPE	UGCM2					0.0010 U
ZZ01 SAMPLE NUMBER	NA	003	004	004	010	011
ZZ02 ACTIVITY CODE	NA	RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	012		013		014		015		016	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030	U	0.0030	U	0.0030	U	0.0030	U	0.0030	U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.027	
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.020	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0094	
ZZ01 SAMPLE NUMBER	NA	012		013		014		015		016	
ZZ02 ACTIVITY CODE	NA	RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	017		018		019		020		021	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030	U	0.0030	U	0.0030	U	0.0030	U	0.0030	U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.024		0.014		0.085		0.0040	U	0.025	
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.0040	U	0.034		0.077		0.0040	U	0.011	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.0010	U	0.013		0.023		0.0010	U	0.0010	U
ZZ01 SAMPLE NUMBER	NA	017		018		019		020		021	
ZZ02 ACTIVITY CODE	NA	RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	022		022 D		023		024		025	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030	U	0.0030	U	0.0030	U	0.0030	U	0.0030	U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.036		0.049		0.14		0.072		0.014	
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.066		0.067		0.20		0.14		0.018	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.17		0.24		0.17		0.090		0.039	
ZZ01 SAMPLE NUMBER	NA	022		022		023		024		025	
ZZ02 ACTIVITY CODE	NA	RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 4-RZ3JJ   VALIDATED DATA

COMPOUND	UNITS	026		027		028		029		030	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030	U	0.0030	U	0.0030	U	0.0030	U	0.0030	U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.20		0.070		0.64		0.39		0.32	
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.47		0.10		0.53		0.69		0.46	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.10		0.040		0.073		0.14		0.11	
ZZ01 SAMPLE NUMBER	NA	026		027		028		029		030	
ZZ02 ACTIVITY CODE	NA	RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 4-RZ3JJ   VALIDATED DATA

COMPOUND	UNITS	031		032		033		034		035	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030	U	0.0030	U	0.0030	U	0.0030	U	0.0030	U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.055		0.0078		0.076		0.0040	U	0.051	
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.30		0.038		0.25		0.028		0.12	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.16		0.043		0.095		0.011		0.029	
ZZ01 SAMPLE NUMBER	NA	031		032		033		034		035	
ZZ02 ACTIVITY CODE	NA	RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ	

ANALYSIS REQUEST DETAIL REPORT   ACTIVITY: 4-RZ3JJ   VALIDATED DATA

COMPOUND	UNITS	036		037		038		039		040	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030	U	0.0030	U	0.0030	U	0.0030	U	0.0030	U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.089		0.40		0.27		0.052		0.0040	U
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.21		0.34		0.99		0.097		0.0040	U
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.087		0.28		0.15		0.065		0.0010	U
ZZ01 SAMPLE NUMBER	NA	036		037		038		039		040	
ZZ02 ACTIVITY CODE	NA	RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	041		042		043		044		045	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040	U					0.0040	U	0.0040	U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030	U					0.0030	U	0.0030	U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010	U					0.0010	U	0.0010	U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040	U					0.0040	U	0.0040	U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.0040	U					0.027		0.0040	U
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.025						0.099		0.0052	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.017						0.043		0.0010	U
SG07 SOLIDS, PERCENT	%			83		96					
SM01 SILVER, TOTAL, BY ICAP	MG/KG			6.15	U	6.15	U				
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG			5810		36900					
SM04 BARIUM, TOTAL, BY ICAP	MG/KG			171		119					
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG			1.39	U	1.39	U				
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG			23.2		18.3					
SM07 COBALT, TOTAL, BY ICAP	MG/KG			24.2		33.1					
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG			387		572					
SM09 COPPER, TOTAL, BY ICAP	MG/KG			963		2460					
SM10 IRON, TOTAL, BY ICAP	MG/KG			93700		178000					
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG			578		1050					
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG			6.37		6.65					
SM13 NICKEL, TOTAL, BY ICAP	MG/KG			38.2		185					
SM14 LEAD, TOTAL, BY ICAP	MG/KG			2070		1170					
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG			777		12.7					
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG			31.5	U	31.5	U				
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG			30.5	U	30.5	U				
SM20 ZINC, TOTAL, BY ICAP	MG/KG			2880		8510					
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG			12100		18800					

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	041	042	043	044	045
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG		1730	18000		
SM23 SODIUM, TOTAL, BY ICAP	MG/KG		2660	1380		
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG		970	476		
SM27 ARSENIC, TOTAL, BY AA	MG/KG		14.8	51.3		
SM32 SELENIUM, TOTAL, BY AA	MG/KG		3.62 U	3.62 U		
SP17 PCB-AROCLOR 1016	UG/KG			1400 U		
SP18 PCB-AROCLOR 1221	UG/KG			1200 U		
SP19 PCB-AROCLOR 1232	UG/KG			400 U		
SP20 PCB-AROCLOR 1242	UG/KG			380 U		
SP21 PCB-AROCLOR 1248	UG/KG			78000		
SP22 PCB-AROCLOR 1254	UG/KG			180 U		
SP23 PCB-AROCLOR 1260	UG/KG			250 U		
ST09 CYANIDE, TOTAL	MG/KG		1.73	1.90		
ZZ01 SAMPLE NUMBER	NA	041	042	043	044	045
ZZ02 ACTIVITY CODE	NA	RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	046		047		048		049		050	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2			0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2			0.0030	U	0.0030	U	0.0030	U	0.0030	U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2			0.0010	U	0.0010	U	0.0010	U	0.0010	U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2			0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2			3.33		0.100		0.095		0.102	
HC16 PCB - AROCLOR 1254, WIPE	UGCM2			4.9		0.068		0.15		0.13	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2			0.64		0.043		0.033		0.026	
SG07 SOLIDS, PERCENT	%	96									
SM01 SILVER, TOTAL, BY ICAP	MG/KG	6.15	U								
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	11300									
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	35.6	U								
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	1.39	U								
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	40.6									
SM07 COBALT, TOTAL, BY ICAP	MG/KG	35.4									
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	437									
SM09 COPPER, TOTAL, BY ICAP	MG/KG	12000									
SM10 IRON, TOTAL, BY ICAP	MG/KG	122000									
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	643									
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	3.93	U								
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	24.0									
SM14 LEAD, TOTAL, BY ICAP	MG/KG	2170									
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG	14.4									
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	31.5	U								
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	30.5	U								
SM20 ZINC, TOTAL, BY ICAP	MG/KG	8600									
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	65900									

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	046		047	048	049	050
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	6800					
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	7720					
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	683					
SM27 ARSENIC, TOTAL, BY AA	MG/KG	13.6					
SM32 SELENIUM, TOTAL, BY AA	MG/KG	3.62	U				
SP17 PCB-AROCLOR 1016	UG/KG	140	U				
SP18 PCB-AROCLOR 1221	UG/KG	120	U				
SP19 PCB-AROCLOR 1232	UG/KG	40	U				
SP20 PCB-AROCLOR 1242	UG/KG	38	U				
SP21 PCB-AROCLOR 1248	UG/KG	8900					
SP22 PCB-AROCLOR 1254	UG/KG	18	U				
SP23 PCB-AROCLOR 1260	UG/KG	25	U				
ST09 CYANIDE, TOTAL	MG/KG	0.156					
ZZ01 SAMPLE NUMBER	NA	046		047	048	049	050
ZZ02 ACTIVITY CODE	NA	RZ3JJ		RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ

ANALYSIS REQUEST DETAIL REPORT / ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	051		052		053		054		055	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U		
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030	U	0.0030	U	0.0030	U	0.0030	U		
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010	U	0.0010	U	0.0010	U	0.0010	U		
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U		
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.0040	U	0.11		10		3.7			
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.013		0.18		13		4.7			
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.0010	U	0.0010	U	1.6		0.69			
SG07 SOLIDS, PERCENT	%									97	
SM01 SILVER, TOTAL, BY ICAP	MG/KG									7.84	
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG									12900	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG									476	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG									1.39	U
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG									29.4	
SM07 COBALT, TOTAL, BY ICAP	MG/KG									37.3	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG									412	
SM09 COPPER, TOTAL, BY ICAP	MG/KG									5110	
SM10 IRON, TOTAL, BY ICAP	MG/KG									197000	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG									1150	
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG									52.1	
SM13 NICKEL, TOTAL, BY ICAP	MG/KG									133	
SM14 LEAD, TOTAL, BY ICAP	MG/KG									3840	
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG									16.7	
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG									31.5	U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG									30.5	U
SM20 ZINC, TOTAL, BY ICAP	MG/KG									22200	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG									27500	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	051	052	053	054	055
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG					5540
SM23 SODIUM, TOTAL, BY ICAP	MG/KG					1440
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG					887
SM27 ARSENIC, TOTAL, BY AA	MG/KG					21.0
SM32 SELENIUM, TOTAL, BY AA	MG/KG					3.62 U
SP17 PCB-AROCLOR 1016	UG/KG					1400 U
SP18 PCB-AROCLOR 1221	UG/KG					1200 U
SP19 PCB-AROCLOR 1232	UG/KG					400 U
SP20 PCB-AROCLOR 1242	UG/KG					380 U
SP21 PCB-AROCLOR 1248	UG/KG					1500000
SP22 PCB-AROCLOR 1254	UG/KG					180 U
SP23 PCB-AROCLOR 1260	UG/KG					250 U
ST09 CYANIDE, TOTAL	MG/KG					50.5
ZZ01 SAMPLE NUMBER	NA	051	052	053	054	055
ZZ02 ACTIVITY CODE	NA	RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	056 F		057		058		059		060	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030	U	0.0030	U	0.0030	U	0.0030	U	0.0030	U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040	U	0.0040	U	0.0040	U	0.0040	U	0.0040	U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.0040	U	0.011		0.311		0.82		0.081	
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.0040	U	0.027		0.27		1.1		0.15	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.0010	U	0.0010	U	0.063		2.5		0.10	
ZZ01 SAMPLE NUMBER	NA	056		057		058		059		060	
ZZ02 ACTIVITY CODE	NA	RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ		RZ3JJ	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	061	062	063	064 F	065
HC11 PCB - AROCLOR 1016, WIPE	UGCM2	0.0040 U	0.0040 U		0.0040 U	0.0040 U
HC12 PCB - AROCLOR 1221, WIPE	UGCM2	0.0030 U	0.0030 U		0.0030 U	0.0030 U
HC13 PCB - AROCLOR 1232, WIPE	UGCM2	0.0010 U	0.0010 U		0.0010 U	0.0010 U
HC14 PCB - AROCLOR 1242, WIPE	UGCM2	0.0040 U	0.0040 U		0.0040 U	0.0040 U
HC15 PCB - AROCLOR 1248, WIPE	UGCM2	0.52	0.0040 U		0.0040 U	240
HC16 PCB - AROCLOR 1254, WIPE	UGCM2	0.60	160		0.0040 U	34
HC17 PCB - AROCLOR 1260, WIPE	UGCM2	0.23	1200		0.0010 U	10
SG07 SOLIDS, PERCENT	%			71		
SM01 SILVER, TOTAL, BY ICAP	MG/KG			6.15 U		
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG			24900		
SM04 BARIUM, TOTAL, BY ICAP	MG/KG			342		
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG			1.39 U		
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG			20.7		
SM07 COBALT, TOTAL, BY ICAP	MG/KG			6.64 U		
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG			39.3		
SM09 COPPER, TOTAL, BY ICAP	MG/KG			1370		
SM10 IRON, TOTAL, BY ICAP	MG/KG			33100		
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG			197		
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG			15.6		
SM13 NICKEL, TOTAL, BY ICAP	MG/KG			23.6		
SM14 LEAD, TOTAL, BY ICAP	MG/KG			372		
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG			6.16		
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG			31.5 U		
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG			30.5 U		
SM20 ZINC, TOTAL, BY ICAP	MG/KG			6940		
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG			15800		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	061	062	063	064 F	065
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG			1630		
SM23 SODIUM, TOTAL, BY ICAP	MG/KG			885		
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG			894		
SM27 ARSENIC, TOTAL, BY AA	MG/KG			5.87		
SM32 SELENIUM, TOTAL, BY AA	MG/KG			3.62 U		
SP17 PCB-AROCLOR 1016	UG/KG			1400 U		
SP18 PCB-AROCLOR 1221	UG/KG			1200 U		
SP19 PCB-AROCLOR 1232	UG/KG			400 U		
SP20 PCB-AROCLOR 1242	UG/KG			380 U		
SP21 PCB-AROCLOR 1248	UG/KG			3300000		
SP22 PCB-AROCLOR 1254	UG/KG			180 U		
SP23 PCB-AROCLOR 1260	UG/KG			250 U		
ST09 CYANIDE, TOTAL	MG/KG			0.348		
ZZ01 SAMPLE NUMBER	NA	061	062	063	064	065
ZZ02 ACTIVITY CODE	NA	RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	066	067	068	069	
HC11 PCB - AROCLOR 1016, WIPE	UGCM2				0.0040 U	
HC12 PCB - AROCLOR 1221, WIPE	UGCM2				0.0030 U	
HC13 PCB - AROCLOR 1232, WIPE	UGCM2				0.0010 U	
HC14 PCB - AROCLOR 1242, WIPE	UGCM2				0.0040 U	
HC15 PCB - AROCLOR 1248, WIPE	UGCM2				0.71	
HC16 PCB - AROCLOR 1254, WIPE	UGCM2				2.1	
HC17 PCB - AROCLOR 1260, WIPE	UGCM2				0.84	
HP17 PCB-AROCLOR 1016	MG/KG			0.014 U		
HP18 PCB-AROCLOR 1221	MG/KG			0.012 U		
HP19 PCB-AROCLOR 1232	MG/KG			0.0040 U		
HP20 PCB-AROCLOR 1242	MG/KG			0.0037 U		
HP21 PCB-AROCLOR 1248	MG/KG			0.0053 U		
HP22 PCB-AROCLOR 1254	MG/KG			0.0018 U		
HP23 PCB-AROCLOR 1260	MG/KG			55		
SG07 SOLIDS, PERCENT	%		67			
SP17 PCB-AROCLOR 1016	UG/KG		1400 U			
SP18 PCB-AROCLOR 1221	UG/KG		1200 U			
SP19 PCB-AROCLOR 1232	UG/KG		400 U			
SP20 PCB-AROCLOR 1242	UG/KG		380 U			
SP21 PCB-AROCLOR 1248	UG/KG		540 U			
SP22 PCB-AROCLOR 1254	UG/KG		180 U			
SP23 PCB-AROCLOR 1260	UG/KG		1600000			
WP17 PCB-AROCLOR 1016	UG/L	0.35 U				
WP18 PCB-AROCLOR 1221	UG/L	0.30 U				
WP19 PCB-AROCLOR 1232	UG/L	0.10 U				
WP20 PCB-AROCLOR 1242	UG/L	0.095 U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 4-RZ3JJ VALIDATED DATA

COMPOUND	UNITS	066	067	068	069	
WP21 PCB-AROCLOR 1248	UG/L	61				
WP22 PCB-AROCLOR 1254	UG/L	0.044 U				
WP23 PCB-AROCLOR 1260	UG/L	0.062 U				
ZZ01 SAMPLE NUMBER	NA	066	067	068	069	
ZZ02 ACTIVITY CODE	NA	RZ3JJ	RZ3JJ	RZ3JJ	RZ3JJ	

VALIDATED DATA

ACTIVITY RZ3JJ   CARTER CARBURETOR

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, AIRS, OR ARCHIVE.

CIRCLE ONE: STORET   AIRS   ARCHIVE

FINAL DATA REPORT APPROVED BY PROJECT LEADER ON 04/06/94 10:03:50 BY Donald P. Vanya ______________________.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EPA

REGION SEVEN

EMERGENCY RESPONSE TEAM

FAX TRANSMITTAL SHEET

TO: Steve Sanchez

LOCATION: E + E

FROM: Betty Berry

EPA, REGION VII

FAX #: (913) 551-5035

TELEPHONE #: (913) 551-

3 PAGES FOLLOW

October 16, 1995

MEMORANDUM

SUBJECT: Request for a Removal Action at the Carter Carburetor Site, St. Louis, Missouri
ACTION MEMORANDUM

FROM: Donald F. Hamera, OSC
FIRE/ER&RP/ENSV

TO: Dennis Grams P.E.
Regional Administrator

THRU: Mike Sanderson
Director, Superfund

CERCLIS ID#: MOD000822601
SITE ID#: JJ

CATEGORY OF REMOVAL: Time Critical

NATIONALLY SIGNIFICANT: No

I. PURPOSE

The purpose of this Action Memorandum is to request approval of the proposed actions and funding for a time critical removal at the former Carter Carburetor facility located in St. Louis, Missouri.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal Site Evaluation

The site includes a former carburetor manufacturing facility. The facility was closed by its owners, ACF Industries, Inc. ("ACF") in 1984. The manufacturing lines were dismantled and most of the equipment was shipped to new locations or sold. On April 26, 1984, ACF sold the manufacturing

The site is not on, nor has it been proposed for, the National Priorities List.

B. OTHER ACTIONS TO DATE

1. Previous Actions

In the early 1980's, ACF was required by the Industrial Pollution Control Section of the Metropolitan St. Louis Sewer District to monitor and control wastewater discharges containing PCBs. ACF instituted physical and procedural controls to reduce PCBs in their wastewater discharges. These controls were reported to be in effect until the facility was decommissioned in 1985 and deeded to the St. Louis Development Corporation d/b/a Land Reutilization Authority (LRA).

In April 1985, the property was transferred by LRA to Hubert and Sharon Thompson. In January 1986, the Thompsons sold a portion of the facility (the oil die cast building) to Edward Pivirotto and his wife. This portion of the facility reverted back to LRA in February 1992 as a result of the Pivirotto's failure to pay real estate taxes. An anonymous caller in February 1986 reported that PCB transformers and related equipment were being scrapped out by the current owners. The St. Louis Health Department made inquiries into the reports regarding the transformer scrapping. In August 1987, EPA conducted a Toxic Substances Control Act (TSCA) inspection of the facility which led to the issuance of a TSCA Complaint to Hubert Thompson. In April 1988, Mr. Thompson contracted U.S. Pollution Control Inc. to remove the transformers. In June 1988, a consent order between Mr. Thompson and the EPA, which required Mr. Thompson to Clean up and dispose or the transformers, was issued.

In February 1989, the Missouri Department of Natural Resources (MDNR) conducted an inspection at the site. The inspection noted that the transformers, transformer oil, switches, and contaminated concrete had been shipped off site for disposal. Samples collected during the MDNR inspection revealed PCB contamination in soils located in the pump room.

In March 1990, EPA conducted another TSCA inspection to determine if further cleanup action was necessary. Samples collected during this inspection indicated that surface wipe samples taken from the pump room still exceeded regulatory cleanup standards and that a transformer and two drums of contaminated material remained on site. In January 1991, EPA sent a letter to Mr. Thompson requesting a description of completed and/or planned cleanup activity at the site. Mr. Thompson's attorney responded to the EPA request in February 1991, indicating that Mr. Thompson did not have the assets to continue the cleanup activities at the site. In October 1991,

Ref. 4

MEMORANDUM

TO: Paul Doherty, EPA/SUPR/SACR

FROM: Steven A. Sanchez, E & E/TATM

THRU: Hieu Q. Vu, E & E/ATATL

DATE: November 28, 1995

SUBJECT: Carter Carburetor Site Sampling Plan
TDD #: T07-9510-511
PAN #: EMO1034SFA
OSC/SAM: Betty Berry

cc: Cecilia Tapia

The Ecology and Environment, Inc. (E & E) Technical Assistance Team (TAT) is submitting the attached draft Sampling Plan for the Site Inspection (SI) of the Carter Carburetor Site, St. Louis, Missouri, for your review and approval. The plan addresses data gaps identified for completion of the SI. Field work is tentatively scheduled for December 4, through December 8, 1995. If you have any comments or questions please contact Steven A. Sanchez or Hieu Q. Vu at 432-9961.

SAMPLING PLAN FOR THE
INTEGRATED SITE ASSESSMENT OF THE
CARTER CARBURETOR SITE
ST. LOUIS, MISSOURI

U.S. EPA REGION VII
SITE ASSESSMENT AND COST RECOVERY BRANCH

AND

ECOLOGY AND ENVIRONMENT, INC.
TECHNICAL ASSISTANCE TEAM

APPROVED BY:

Site Assessment Manager	Date
Regional Quality Assurance Officer	Date

TABLE OF CONTENTS

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ATTACHMENTS

LIST OF ILLUSTRATIONS

1. INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the U.S. Environmental Protection Agency (EPA) Region VII Site Assessment and Cost Recovery (SACR) Branch has tasked the Ecology and Environment, Inc. (E & E), Technical Assistance Team (TAT) to conduct a Preliminary Assessment/Site Inspection (PA/SI) at the Carter Carburetor site in St. Louis, Missouri, under Technical Direction Document (TDD) T07-9510-511. PA/SIs are conducted under the auspices of EPA's Superfund Accelerated Cleanup Model (SACM) and result in a combination of the site assessment activities of the Remedial/Site Assessment and Removal programs.

The site was formerly used as a carburetor and automotive parts manufacturing, and transformer dismantling facility. Previous investigations conducted by the site's owner and the Missouri Department of Natural Resources (MDNR) and TAT determined the presence of polychlorinated biphenyls (PCBs), metals, and dioxin equivalents in the shallow subsurface soils, walls, floors, ceiling fans, and abandoned equipment on the site property.

The primary objectives of the PA/SI are to evaluate the air, soil, ground water, and surface water pathways and associated targets, collect data to assess both the removal consideration, in accordance with the criteria set forth in the NCP [40 CFR 300.415 (b)(2)], and CERCLA Preliminary Assessments and Site Inspections (PA/SI). The main objective of sampling is to identify or eliminate potential targets which ultimately effect the Hazard Ranking System (HRS) scoring of each evaluating pathway. Should results from the PA/SI sampling event indicate further assessment is required to define the extent of contamination and additional targets, an extended SI will be implemented. This PA/SI site sampling plan presents site background information, addresses site-specific information needs, and describes the rationale and procedures to be implemented during the planned field activities at the site.

2. SITE DESCRIPTION AND HISTORY

2.1 Site Location

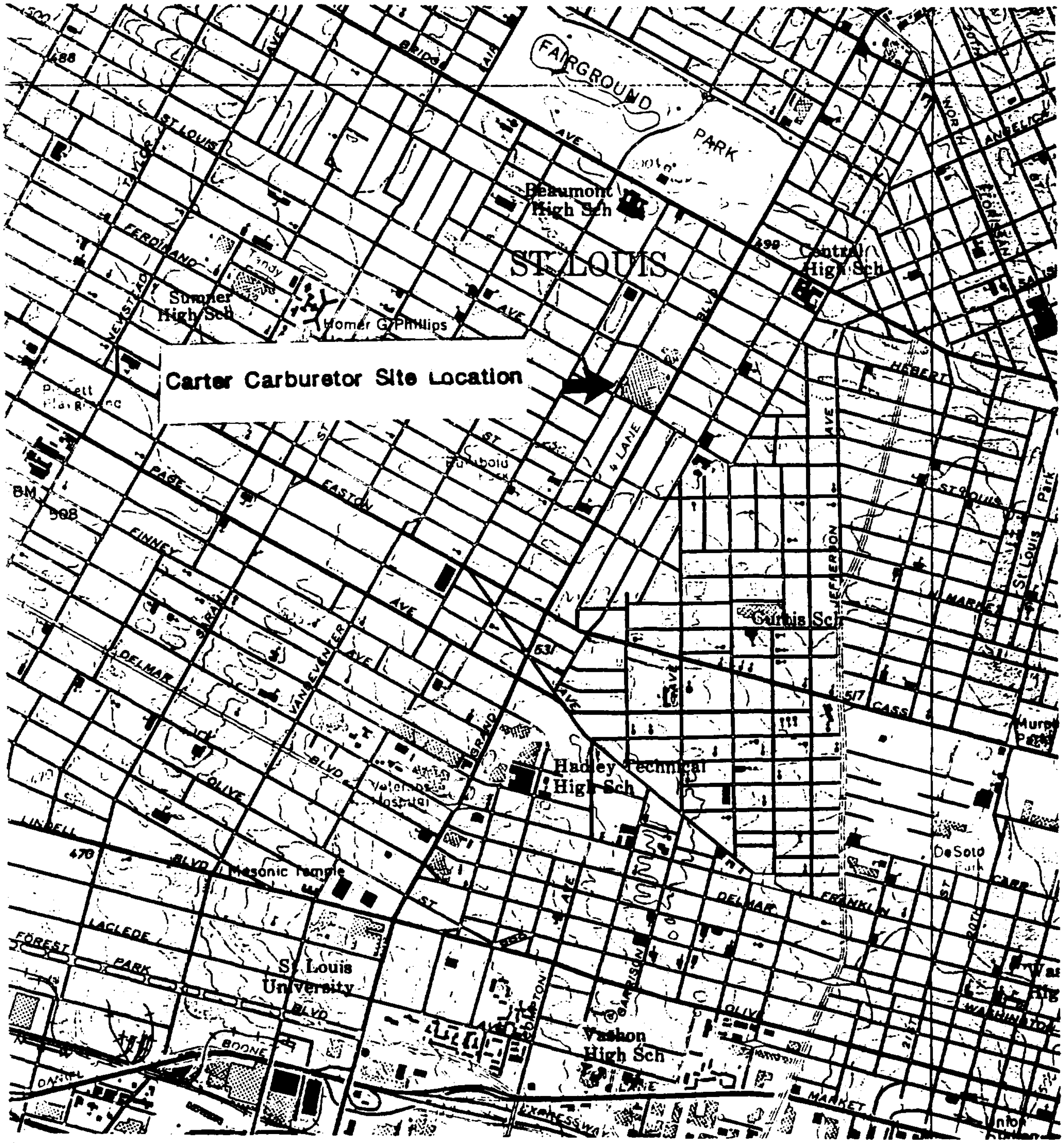
The Carter Carburetor site is located at 2840 N. Spring Street in St. Louis, Missouri (see Figure 1). The site covers approximately 9 acres in a business district of St. Louis, Missouri and is bordered by N. Grand to the east; Dodier Street to the north; N. Spring Street to the west; and St. Louis Avenue to the south (see Figure 2). This area is a mixed commercial and residential area in St. Louis. The geographic coordinates of the site are latitude 38° 39' 33.0"N and longitude 90° 13" 13.7"W. The site is approximately within Township 45N, Range 7E, in St. Louis County, Missouri (References 1 and 2). The sections and quarters are not available for this particular area of St. Louis.

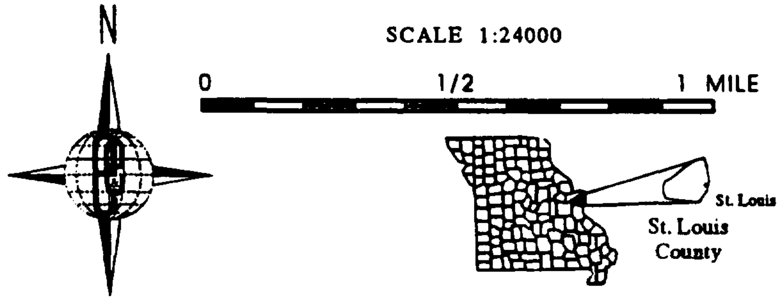
2.2 Site Description

The site is bounded to the west, south, and east by various businesses, and to the north by a Herbert Hoover Boys Club, which includes a tennis court, baseball and football field. Figure 2 illustrates the surrounding land use in the vicinity of the site. The Carter Carburetor manufacturing facility was a carburetor and automotive parts manufacturing plant in a three-story building with a basement where removal activities are currently being negotiated between the potentially responsible party (PRP) and the Region VII EPA Emergency Planning and Response (EP&R) Branch. Several walls, roofs, and floors are severely dilapidated. The three story building is surrounded by concrete and an asphalt parking lot (Reference 3). Other than areas where cracks are present in the concrete and asphalt, and low lying areas in the parking lot where sediment has deposited, the site has no exposed soil. Several sumps and concrete lined trenches containing liquid material are present in the south and north die casting rooms.

2.3 Operational History and Waste Characteristics

American Car and Foundry (ACF) Industries, Incorporated, owned the entire city block the Carter Carburetor site is located on until 1985. ACF is owned by Carl Icon of New York, New York. Because of financial difficulties, ACF closed the facility (Carter Carburetor and Carter Automotive companies) it operated on the site in April, 1985. The Carter Carburetor and Carter Automotive companies were subsidiaries of ACF Industries, Incorporated. The subsidiaries of ACF Industries manufactured equipment for gasoline- and diesel-





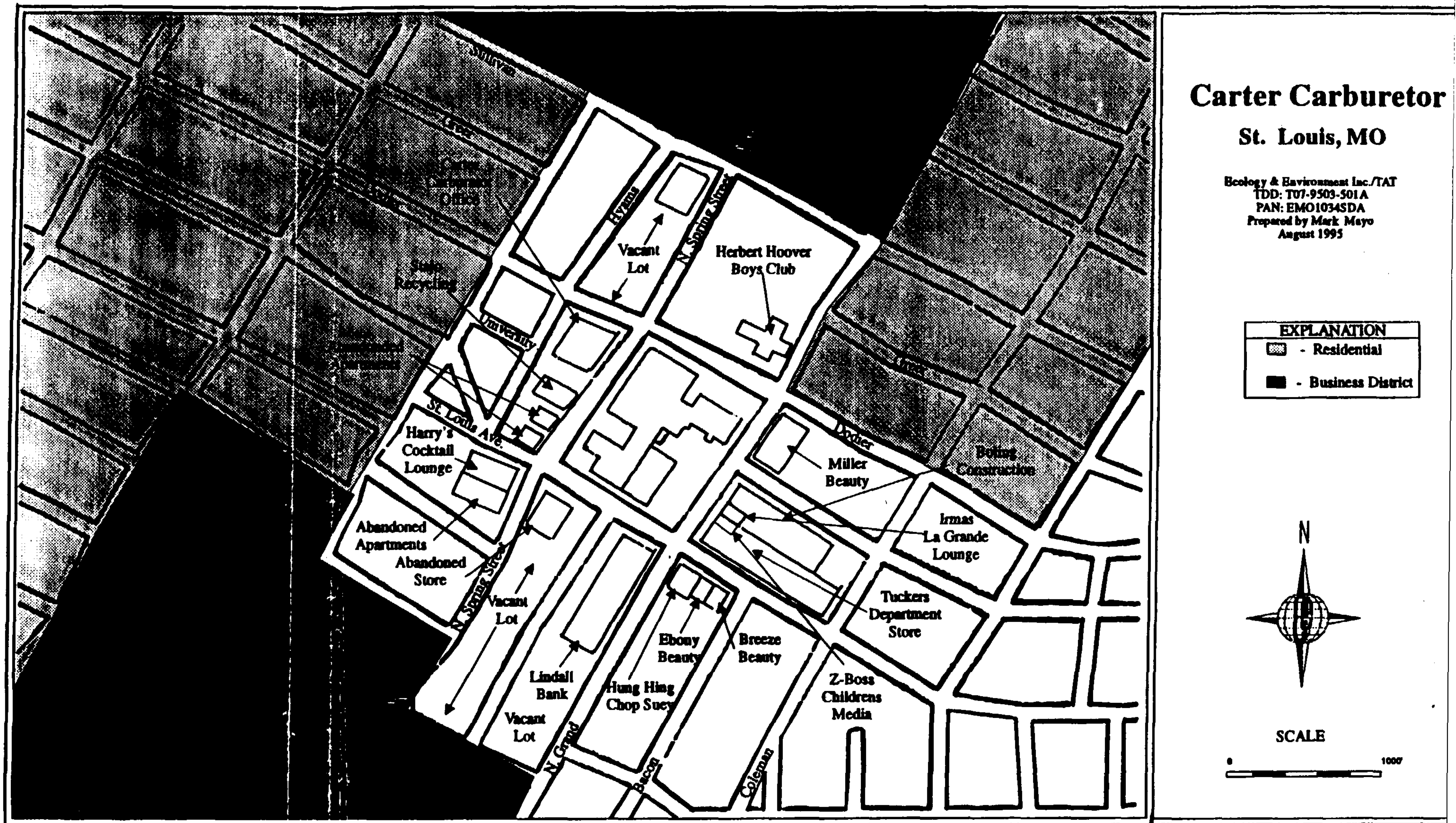
Carter Carburetor
St Louis, MO

Ecology & Environment, Inc./TAT
PAN: EMO1034SDA
TDD: T07-9503-501A

ecology and environment, inc.
OVERLAND PARK KANSAS

FIGURE 1: Site Location Map

Source: USGS 7.5 minute series, photo rev. 1982
Granite City, MO Quad.
Prepared by Mark Mayo
August 1995



SURROUND.CDR
CARTER CARBORETOR

SOURCE: Ecology and Environment Technical Assistance Team

Figure 2: Surrounding Land Use Map

fuel engines at this facility until the mid-1980's. The activities and processes that occurred at the facility included: metal fabrication; crib operation, where metal was melted; diecasting, where metal was poured into molds; punch pressing, where specifically designed holes were stamped into the metal; operation and maintenance of four substations with transformers, which were used for stepping down high voltage electricity; coating of parts; tool designing, where specific tools were designed for the production of the automobile parts; flow testing, where the manufactured parts were tested; assembling of parts; and various other support functions, including data processing, shipping and receiving, product control/storage, and equipment repair (Reference 3 and 7).

In exchange for forgiveness of delinquent taxes, ACF deeded the property to the Land Reutilization Authority of St. Louis (LRA) on April 26, 1985. Later that year, LRA deeded the property to Hubert Thompson. In 1986, Edward Pivorotto purchased from Hubert Thompson the portion of the building encompassing the south and north die casting rooms and warehouse. In 1987, Pivorotto defaulted on the property taxes and the property was deeded back to the LRA. Also during 1987, Hubert Thompson who used a portion of the facility for dismantling transformers was ordered by the EPA to refrain from any further PCB dismantling activities and to remove and properly dispose of the transformers located on the property (Reference 7). On October 29, 1991, Hubert Thompson transferred the property deed to George Moore, president of Carter Carburetor Inc. (CBI). Currently, CBI owns the western half of the building and LRA owns the northeastern portion of the building. CBI is currently leasing portions of the buildings to other businesses, including Wilco's Plastics Shop, Caribou Corporation (a metal fabricating company), Mac's Auto Service (an automotive repair company), and Maintenance Control/Karmar and Stajo Company uses space in the building for equipment storage.

Based on the past operational history and past investigations, including sampling activities, the potential waste sources listed below were identified (References 3 through 6):

1. <u>Tanks and Non-Drum Containers</u>: Two 100-gallon transformers located outside the building, and 17 approximately 1-gallon transformers located inside the building. The exact contents and volumes of the 17 transformers is unknown.

2. <u>Tanks</u>: Two 3,000-gallon underground storage tanks (USTs) containing waste oil and Pydraul (a PCB-containing hydraulic fluid), and 19 other reported USTs. The locations, contents and volumes of the 19 reported USTs is unknown.

3. Drums: twenty 55-gallon drums of which 10 were located outside the building, and 10 were located inside the building. Analytical results from past sampling of three of the drums indicated that PCBs were present in them. The drums' contents have never been analyzed for volatiles and semivolatile organic compounds (VOCs and semiVOCs), and metals.

4. Metal Shavings: An unknown volume of metal shavings is spread throughout the building. Analytical results of past investigations indicates that the shavings were contaminated with PCBs, cyanide, and metals including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, selenium, silver, thallium, vanadium, and zinc.

5. Smokestack exhaust: Analytical results of wipe samples collected inside and the immediate area around the smoke stacks indicated PCBs and dioxin equivalents contaminants. The smokestacks were used for exhausting fumes from the diecasting activities.

6. Sumps and Concrete Lined Trenches: A complex system of sumps and concrete trenches are present in the south and north die casting rooms. All of the sums and trenches contain liquid material that appears to be waste water and waste hydraulic oil mixed together. The depths and volumes of these sumps and trenches are unknown. Liquid material from one of the sumps located in the central portion of the north die casting room was sampled and PCBs were detected at 61 μg/L. Reportedly a capture system was set up in the plant for recycling the waste material and the sump and trenches were part of that system. The location of the recycling system is unknown.

2.4 Previous Investigations

TAT has conducted several investigations at this site for the Region VII EPA EP&R Branch. In February and June, 1994, the TAT conducted site assessments and sampling at the Carter Carburetor site. The site assessments provided EPA with information regarding waste stream characteristics present at the site. In March 1995, the TAT conducted a reconnaissance at the site. The site reconnaissance was conducted to observe the current site conditions and identify any potential waste sources. In September 1995, the TAT conducted a site assessment and sampling to determine the on-site extent of contamination. In November, 1995, the TAT and EPA returned to the site to oversee the PRP's contractor, Philip Environmental conducting a pilot test to decontaminate PCB-contaminated concrete surfaces using a PCB, oil, grease, and petroleum extraction process. However, because of the inability of the extraction process to work in low temperatures (below 50° F) the test was postponed. The TAT and EPA personnel instead conducted a site reconnaissance to observe the site security and document current site conditions. The EPA is currently the lead regulatory agency for the cleanup of the site.

Polychlorinated biphenyls (PCBs), cyanide, and metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, selenium, silver, thallium, vanadium, zinc were detected in wipe, dust, and subsurface soil samples collected throughout the three-story building, basement, and selected areas outside of the building. PCBs also were detected in indoor air samples (collected with hi-volume air samplers), in several on-site drums, in water from a puddle located near the south and north diecasting rooms, and stormwater sediment in the north asphalt parking lot. Additional wipe samples that were collected from the south and north diecasting rooms detected low concentrations (nanograms per kilograms) of dioxin equivalents. Tables 1 through 7 summarize all previous TAT sampling analytical results. Table 6, which also includes TAT past sample results, summarizes the St. Louis Metropolitan Sewer Districts Wastewater sampling at manhole locations surrounding the Carter Carburetor site.

3. COLLECTION OF NON-SAMPLING DATA

Non-sampling data collection activities will include: verifying on-site and nearby populations; waste source quantity and location; and sensitive environments information. To assist EPA in identifying individual waste source locations, a waste source inventory sketch will be prepared. The number of residential properties and the number of workers within a 1-mile radius will be estimated during the field activities. The MDNR well log database has already been reviewed, which indicated there are no private or municipal wells used within 4 miles of the site. The local geology and hydrogeology characteristics will be observed in the field during the PA/SI subsurface sampling event and further evaluated in-house through literature research. The Missouri Department of Conservation (MDC) has provided information pertaining to the locations of any sensitive environments, including federal- and state-listed threatened and endangered species and wetlands; these locations will be verified in the field.

4. SAMPLING ACTIVITIES

The objectives of the integrated SI are to evaluate air, soil, ground water, and surface water pathways and associated targets by: collecting non-sampling and analytical data to identify sources and identify and quantify hazardous substances at the site; investigate whether hazardous substances have been released to the environment; and whether the substances may have impacted human health and the environment. The sampling plan calls for surface and subsurface soil, surface water, sediment, and ground water sampling. Samples will be submitted to the EPA Region VII Laboratory for VOCs, semiVOCs, metals, and PCBs analyses. Tables 8 and 9 provide a summary of all proposed samples to be collected during the integrated SI fieldwork.

4.1 Source Sampling

The on-site sources that have not been sampled include the 17 small approximate 1-gallon transformers, contents of the 19 other reported USTs, and 17 of the approximate twenty 55-gallon drums. The 17 small transformers are assumed to contain PCBs, similar to the larger transformers and, if they are accessible for sampling, they will be sampled and field screened using PCB immunoassay screening kits to verify or refute the assumption. Further evaluation of the USTs is discussed below under soil sampling. Three of the drums have been sampled and analyzed for PCBs and PCB concentration in those drums ranged from 55 to 640,000 mg/kg. All the drums have undergone hazardous characterization (HAZCAT) screening and the screening results indicated the drums were absent of corrosive, flammable, oxidizing, reactive, sulfide, and cyanide compounds. Because the 17 55-gallon drums have not been field screened or analyzed for PCBs, they will be sampled and screened for possible PCBs using chlor-n-oil kits. Two confirmation drum samples will be collected directly into 1 80-ounce glass amber for PCB analysis; four 40 ml VOA vials preserved with hydrochloric acid for VOCs analysis and placed in a cubitainer with a charcoal-filled thimble; two 80-ounce glass amber bottles semiVOCs analysis; and one 1-liter cubitainer and preserved with nitric acid for metal analysis.

A sump that was sampled in the central portion of the north die casting room was found to contain 61 μg/L PCBs. Because PCBs were detected in that sump, sediment samples will be collected from the remaining approximate 10 sumps and will be screened in the field using PCB immunoassay kits and an organic vapor analyzer (via head space screening techniques). Three sediment and three water samples (including one duplicate per matrix) from three selected sumps/trenches will be collected for laboratory confirmation analyses. Selection of the sump/trenches will be based on the field screening results. Each one of the sump/trench water samples will be collected directly into four 40-ml VOA vials preserved with hydrochloric acids for VOCs analysis and placed in a cubitainer with a charcoal-filled thimble; two 80-ounce glass amber bottles semiVOCs, analysis; one 1-liter cubitainer and preserved with nitric acid for metals analysis; and 1 80-ounce glasss amber for PCBs analysis. Sediment samples will be placed directly into two 40-ml glass VOA vials for VOCs analysis; two 8-ounce glass jars for semiVOCs analysis; one 8-ounce glass jar for metals analysis; and one 8-ounce glass jar for PCB analysis. For the samples being analyzed for VOCs, no homogenization of the sediment will be undertaken so as to minimize the volatilization of the VOCs. Samples for other analyses will be homogenized in aluminum pie pans prior to placement in sample containers.

4.2 Soil Sampling

The Carter Carburetor legal counsel has reported to the TAT that there were at one time 18 USTs present on site and one was reported to be at an off-site location immediately north of the site (Reference 7). Two of the on-site USTs, which have been emptied and grouted, are located outside and immediately adjacent to and east of the south die casting room. Subsurface soil PCB analytical results from samples collected at 6-inch to 12-foot depth from the perimeter of these USTs indicated the presence of PCBs ranging from 35.8 to 2,210 mg/kg. Reportedly, the chemicals in the 17 other USTs have been pumped out and taken off-site and the UST's were filled with cement or grout (Reference 7). The exact locations, contents, volumes, and containment of these 17 other USTs is unknown at this time and will be determined during the SI field work. The reports of proper UST closures will also be verified through literature review. If the locations of the USTs are verified, subsurface soil samples will be collected from areas surrounding the USTs to assess subsurface soil contamination and the potential threat to ground water, and nearby residents via utility lines and basements. The samples will be collected at multiple depth intervals (for example 3 to 5 feet, 8 to 10 feet, 13 to 15 feet and 18 to 20 feet) and will be field screened using PCB immunoassay screening kits and an organic vapor analyzer. The multiple depth intervals will be determined in the field and will be based on field observation and screening results, availability of soil that can be sampled, and depth to groundwater at the site. An off-site background location will be selected and a minimum of 3 background samples will be collected from the same depth intervals as for the onsite subsurface samples. Approximately twenty percent of the subsurface soil samples will be submitted for laboratory confirmation analyses. It is estimated that 40 to 60 subsurface soil samples will be collected and field screened. Ten of the approximate 40 to 60 subsurface soil samples and one duplicate will be submitted to the EPA Region VII laboratory for PCBs, VOCs, semiVOCs, and metal analyses.

Because contamination may have migrated off site via surface water run-off, vehicle and foot traffic, and airborne particulates, a total of 15 surface soil samples (including one duplicate and two background samples, and 12 resident and surrounding business soil samples) will be collected from adjacent properties to the site. The two background samples will be collected from upgradient and off-site locations from soils representative of the area. The other 12 samples locations will be identified in the field and will be strategically placed to verify if hazardous substances have migrated off the site, and to identify potential targets. Eight of the 12 soil samples will be collected from the nearest available soils across the street from the site at nearby businesses or vacant lots and the remaining four samples will be collected every 100 feet from bare soil in the pathway of the area primary wind direction to determine whether airborne contaminants have migrated from the site. All the surface soil samples will be collected from a depth of 0 to 2-feet below ground surface (BGS) using a hand auger. The auger will be decontaminated with alconox and water before and after each sample collection to prevent cross contamination. A rinsate sample of the auger will be collected to verify proper decontamination.

At each surface and subsurface soil sample location, the samples will be placed directly into two 40-ml glass VOA vials for VOCs analysis; two 8-ounce glass jars for semiVOCs analysis; one 8-ounce glass jar for metals analysis; and one 8-ounce glass jar for PCB analysis. For the samples being analyzed for VOCs, no homogenization of the soil will be undertaken so as to minimize the volatilization of the VOCs. Samples for other analyses will be homogenized in aluminum pie pans prior to placement in sample containers. Figure 2 illustrates the site surroundings where soil samples will be collected.

4.3 Surface Water and Sediment Sampling

The storm water received from the site flows east through the combined storm and sewer system for approximately two miles to the BPWTP located on the Mississippi River

(Reference 1). To determine if contaminants have migrated off site, through combined storm/sewer water system and discharged to surface water, four sediment samples will be collected from four manholes surrounding the building where runoff and sewer water from the site discharges into. Because of the numerous manholes in the vicinity of the facility, St. Louis Metropolitan Sewer authorities will be contacted prior to the sampling for identifying storm/sewer water sampling locations. Pending the availability of sediment, the sediment samples will be collected with stainless steel spoons and placed directly into two 40-ml VOA vials, and the vials placed in a cubitainer with a charcoal-filled thimble for VOCs analysis; one 8-ounce glass jar for semiVOCs analysis; one 8-ounce jar for metals analysis; and one 8-ounce jar for PCBs analysis.

The BPWTP's effluent is sampled for total toxic organics analyses twice a year, and metals analyses four times a year, in compliance with its National Pollution Discharge Elimination System (NPDES) permit (Reference 8). Because the BPWTP does not treat or analyze its waste stream for PCBs, one sediment sample will be collected from the BPWTP's influent located approximately 2 miles east of the site (Figure 3). Analytical results from this sample will be compared against sediment sample results collected from the manholes surrounding the site to determine whether PCB contaminants have potentially migrated to the BPWTP and are being released directly to surface water. The BPWTP sediment sample will be collected in one 8-ounce jar for PCBs analysis.

Intakes for drinking water supply for St. Louis residents are located on the Mississippi and Missouri River approximately 4 and 10 miles upstream of the BPWTP, respectively (approximately 6 and 10 miles from the site). Because these intakes are both located upstream of the BPWTP's effluent, the intakes do not warrant sampling. However, because the St. Louis Public Water authorities distribute drinking water via underground utilities to St. Louis residents, and one of the distribution lines runs adjacent to the site along N. Grand Avenue, the residents receiving water from that distribution line, may be considered targets. To determine whether subsurface contamination at the site may have any impact on drinking water distribution lines immediately surrounding the site, four drinking water samples and one duplicate will be collected from one on-site faucet and three nearest faucets surrounding the site. Sample collection procedures for municipal wells will follow U.S. EPA Standard Operating Procedure (SOP) for "Drinking Water Sample Collection", No. 2334.10-A. The drinking water will be collected directly into four 40-ml VOA vials preserved with hydrochloric and ascorbic acids for VOCs analysis and placed in a cubitainer with a charcoal-

Carter Carburetor

St. Louis, MO

Ecology & Environment Inc./TAT
TDD: T07-9503-501A
PAN: EMO1034SDA
Prepared by Mark Mayo
August 1995

SOURCE: USGS 30 x 60 Minute
St. Louis, MO

SCALE 1:100,000

0 1 2
MILES

Figure 3: 15-Mile Downgradient Stream Segment

filled thimble; two 80-ounce glass amber bottles semiVOCs analysis; 1 80-ounce glass amber for PCBs analysis; and one 1-liter cubitainer and preserved with nitric acid for metal analysis.

4.4 Ground Water Sampling

The karst area of St. Louis where Carter Carburetor site is located contains many sink holes and caves (Reference 9). Local ground water flow uderlying the site will be controlled by the solution channels associated with these caves and could therefore be varied. The uppermost aquifer underlying the site is the St. Louis Limestone. Because the area is karst, depth to ground water in the site vicinity ranges 0 to 61 feet BGS (Reference 11). St. Louis Public Utilities Water Division does not allow ground water wells to be placed in the city limits at this time (Reference 10). The potential threat to ground water will be addressed by collecting ground water samples using the Geoprobe Systems, Inc. ground water sampling apparatus. Because the ground water flow direction is not known, five discrete samples (including one duplicate, and one rinsate) will be collected from the perimeter of the site to determine if the ground water has been impacted by the site contamination. A minimum of three Geoprobe well volumes will be purged, if possible, before sampling, or the well will be purged dry and allowed to recharge. Two background temporary Geoprobe monitoring well will be installed and sampled at one upgradient and one downgradient area from the site. Sampling procedures with the Geoprobe will be conducted in accordance with the Draft E & E SOP entitled "Standard Operating Procedures for Geoprobe Operation" (Draft, February 1991). Sample collected procedures for the temporary Geoprobe wells will follow EPA SOP 2334.15A, Ground Water Sample Collection. The stabilization of temperature, pH, and conductivity will be used as indicators of adequate purging. Stabilization of these parameters is determined as two consecutive readings with 10%. The ground water will be collected directly into four 40-ml vials preserved with hydrochloric acid for VOC analysis and placed in a cubitainer with a charcoal-filled thimble; two 80-ounce glass amber bottles for semiVOC analysis; 1 80-ounce glass amber PCBs analysis; and one 1-liter cubitainer preserved with nitric acid for metal analysis. All samples will then be placed in a cooler with ice chilled to 4° C.

5. INVESTIGATION-DERIVED WASTE HANDLING AND DECONTAMINATION PROCEDURES

Investigation-derived waste (IDW) resulting from this activity will principally consist of purge water and decontamination fluids. It is anticipated that less than 10 gallons of IDW water will be generated from the on-site sampling and decontamination processes during this activity. Purge water and decontamination fluids derived from the decontamination of on-site sampling equipment will be handled according to procedures described in EPA Guidance, as set forth in EPA/540/G-91/009, Management of Investigation Derived Wastes During Site Inspections. PCBs and metals are the primary contaminants of concern that have been previously detected in site soils. Section 3.1 of EPA's guidance mentioned above, states that IDW may be assumed not to be a "listed" waste under RCRA unless available information suggests otherwise. In addition, Section 3.2.2 specifies that, if solvents are contained in the IDW, the IDW cannot be classified as containing a listed spent solvent if information is not available regarding the original use of the solvent. Since the concentrations of PCBs and metals in the IDW water cannot be predicted, and it is assumed to not be a listed waste, and the anticipated quantity is less than 10 gallons, the contaminant constituent mass in the decontamination water will be minimal, and will be handled according to Section 4.5 of the aforementioned guidance document, which specifies that the IDW may be poured onto the ground immediately adjacent to where the location is originated.

Decontamination of personnel and equipment will be conducted in accordance with the site-specific Health and Safety Plan (prepared by E & E) and EPA Region VII guidelines. Decontamination of sampling equipment will be performed prior to sample collection at the first location, and between all sampling locations thereafter. Equipment decontamination will consist of a gross contamination tap-water wash containing alconox, followed by a tap-water rinse, and a double rinse with distilled/deionized water. Tap water used in decontamination will be brought on site. After decontamination is complete, all equipment will be air-dried and wrapped in aluminum foil prior to use at the next sampling location. Decontamination water will be disposed of on site. Disposable equipment will be used, when possible, to reduce/eliminate the risk of cross-contamination. Any IDW that is determined to be contaminated will be disposed of as outlined in the site-specific Health and Safety Plan and in accordance with EPA Region VII guidelines.

6. QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The quality assurance and quality control (QA/QC) objectives for this project are to provide data of known and documented quality for use in an Action Memorandum and for incorporation into the framework of the HRS to determine whether the sites have a potential to be proposed onto the National Priorities List (NPL). QA samples are required to verify the validity of analytical results and to assess whether the samples may have been contaminated as a result of improper decontamination, container contamination, preservative contamination, contamination during transport to and from the site, or laboratory contamination.

The QA/QC for this sampling event will be provided through the use of a combination of trip blank, field blank, rinsate, and duplicate samples. Trip blanks are samples prepared by the EPA Region VII Laboratory prior to going into the field. Trip blanks are handled, transported, and analyzed in the same manner as the other samples, to determine whether any trip-related activities resulted in the introduction of contaminants that would jeopardize the validity of analytical results. Field blanks are samples prepared in the field to assess whether any contaminants were introduced by sample containers and/or preservatives. Equipment rinsate samples are used to determine if decontamination procedures are being performed correctly and to verify that the samplers are not cross-contaminating the samples. Duplicate samples will be collected and analyzed to assess the reproducibility of the sampling procedures and analytical methods.

The following EPA Region VII SOPs will be followed during all sampling activities:

- SOP No. 2130.4B: Sample Containers;
- SOP No. 2230.3B: Sampling Soil for Determination of Volatile Organic Contaminants;
- SOP No. 2334.3A Wastewater Sample Collection;
- SOP No. 2334.7A: Surface Water Sample Collection;
- SOP No. 2334.8A: Sediment Sample Collection;
- SOP No. 2334.10A Drinking Water Sample Collection; and
- E & E SOP "Standard Operation Procedure For Geoprobe Operations" (draft, February 1991).

Laboratory quality control elements are included in the analytical SOPs cited in Region VII SOP and include:

- No. 1610.1C, Regional Laboratory Quality Control Policy;
- No. 1610.2A, Three Levels of Data Review;
- No. 1610.3A, Laboratory Data Functional Guidelines for Evaluating Inorganic Analysis;
- No. 1610.4A, Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses; and
- No. 1620.1A, Hazardous Waste Management Plan For Region VII Laboratory.

All VOC and semiVOC samples will be collected in four 40-ml vials and two 80-ounce ambers respectively for water samples and two 40-ml glass vials and one 8-ounce glass jar for soil VOC and semiVOC samples respectively. To preserve the VOC water samples, two to three drops of 1:1 hydrochloric acid solution and two to three drops of ascorbic acid (for drinking water samples) will be added to each vial. This will preserve the sample for 14 days. EPA SOP No. 2130.4A, Sample Containers procedures will be followed, including using Teflon-faced silicon rubber septa seals. All metal samples will be collected in one 80-ounce cubitainer for water and one 8-ounce jar for soil samples. To preserve the metal water samples, four to five drops of 1:1 nitric acid will be added to each cubitainer. All sample containers will be placed in an ice chest and chilled to 4^{0}C with ice as a preservative during transport to the EPA Region VII Laboratory. Sample chain-of-custody and documentation will follow EPA SOPs 2130.2A, Field Chain of Custody for Environmental Samples, and 2130.3A, Identification, Documentation, and Tracking of Samples.

7. ANALYTICAL TECHNIQUES AND DATA ASSESSMENT PROCEDURES

All samples will be submitted to the Region VII EPA Laboratory in Kansas City, Kansas. Table 8 summarizes the proposed and QA/QC samples for the site. It is estimated that 82 to 102 multimedia environmental samples will be collected for field screening and approximately 50 samples (including QA/QC samples) will be submitted to the EPA Region VII laboratory for analyses. The proposed number of samples is based on previous sampling and operational history, which identified PCBs, metals, on solid surface areas and in the soil at the site.

Samples submitted for laboratory analysis will follow quality assurance Level 3 for definitive identification, quantitation, and analytical error for all samples, as defined in OSWER Directive 9360.4-01. The required detection limits for VOCs, semiVOCs, metals, PCBs, in soil and sediment are the routine Contract Laboratory Program (CLP) contract required detection limits. The required detection limits for PCBs, VOCs, semiVOCs, and metals in drinking water samples are the CLP low detection limits for maximum contaminant levels (MCLs). The required detection limits for the sump/trench water samples are the routine Contract Laboratory Program (CLP) contract required detection limits for PCBs, VOCs, semiVOCs, and metals analysis. The required detection limits are also listed in the analytical services request (ASR) form in Attachment A of this document.

All water, soil, and sediment samples will be analyzed in accordance with EPA SOP No. 3230.1C, GC/MS Analysis of Volatile Organic Compounds; No. 3230.2A Extraction and Analysis of Water and Solids for Semivolatile Organic Compounds; No. 3110.1B Preparation of Aqueous Samples for Metal Analysis by ICP or Furnace AA and No. 3110.3B Preparation of Solid Samples for Metal Analysis by ICP or Furnace; No. 3240.2A Organochlorine Pesticides and PCBs. The ASR form (Attachment A) summarizes the estimated number of samples, requested analyses, and estimated date of delivery.

8. PROJECT MANAGEMENT

The TAT project management and the responsibilities of the site managers involved with the PA/SI are presented below. Also presented below are the projected sampling, data analyses and validation, and report delivery.

8.1 Key Personnel

The EPA contact for the site is Betty Berry, On-Scene Coordinator/acting Site Assessment Manager (OSC/SAM). The TAT team will consist of four members, the project and sample manager, a site safety officer and sampler, a Geoprobe operator and sampler, and a field chemist for field screening samples. The responsibilities of the project manager will include coordination of field activities with EPA personnel, the planning and implementation of all field activities, and preparation of the final report, and to assure all site safety procedures are followed.

8.2 Project Schedule

Upon EPA approval of this QASP, the TAT will initiate actions for the sampling and non-sampling data-gathering activities. The TAT estimates that it will take no more than five days for travel/fieldwork; approximately one month for laboratory analysis and data validation; and three weeks for completion of the final Integrated SI report, including the HRS evaluation.

8.3 Site Health and Safety Concerns

The site has been evaluated as a medium hazard site. The site was surveyed with an OVA during the on-site reconnaissance and there were no readings above background (< 1 parts per million). Some of the contamination has been detected in site dust inside the building and may be available to the atmosphere. For this purpose Level C personal protection will be worn while conducting sampling activities in the building. Should windy or dusty conditions warrant Level C protection outside the building, Level C will be donned, otherwise Level D will be worn outside the building during site activities. OVA monitoring will be conducted during soil sampling (Reference 8). Because the fieldwork will be performed during the winter season cold stress monitoring will be conducted during sampling activities. A site-specific Health and Safety Plan will be prepared for the project and all proposed field activities will be conducted in accordance with the plan.

8.4 Community Relations

The TAT does not anticipate significant public interest will occur as a result of the commencement of field activities. However, portions of the former Carter Carburetor facility is currently used by other companies including a Plastics Shop, Auto Body Shop, business, storage, and property management. Persons requesting site information will be instructed to contact the EPA OSC, and/or the Region VII Office of External Programs.

9. REFERENCES

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3. Ecology and Environment, Inc., 1994, February 23, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9310-027B, Kansas City, Kansas.

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5. ________, 1995, March 20, Site Reconnaissance at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9503-001, Kansas City, Kansas.

6. ________, 1995, September 7, Site Assessment at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9505-009, Kansas City, Kansas.

7. ________, 1995, November 13, Site Reconnaissance at the Carter Carburetor Site in St. Louis, Missouri, EPA Region VII Technical Assistance Team, TDD T07-9511-003, Kansas City, Kansas.

8. Bissel Point Wastewater Treatment Plant (BPWTP), 1995, August 9, Telephone Interview with Jeff Theerman, Assistant Director of Wastewater, St. Louis, Missouri.

9. Missouri Water Atlas, 1982, Missouri Department of Natural Resources, Jefferson City, Missouri.

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